# NC DPI organizational assessment

Appendix

April 27, 2018



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# Supporting analysis for individual recommendations



Better integrated, validated, and managed data could help NC DPI transform its use of data to provide better support to schools and districts

#### Information Management Capabilities for a State Education Agency (SEA)

(based on leading practice, illustrative framework)

Data governance capabilitie Organizational Model	<b>S</b> Enablement	Standards and Policies	Identification of critical data objects and controls, initial focus areas, and agency priorities
Data quality capabilities Profiling/Analysis	Cleansing	Validation Controls	Addresses tactical and strategic initiatives for data identification, profiling, and remediation
Data management capabiliti System of Record Data Security	<b>es</b> Operational Data Stores (ODS) Data Movement (extract, transform, load,, etc.)	Data Marts for Analytics Metadata Management	Defining the desired approach by creating the key data sources, the integration strategy, and management processes
<b>Key</b> (assessment based on EY interviews, data)	analysis of NC DPI Capability doesn't	exist Capability partially exists	

#### **Supporting Analysis**

- As more sources of data emerge, research indicates it becomes more burdensome to keep up with the current model of sourcing and validating data independently
- Without a consistent way of validating data across the agency, it is challenging to establish a clear relationship between the data teams pull from various systems (both internal and external to the department) and the data teams have internally
- Drivers for consolidation of data:
  - Functions that use data (analytics, reporting, etc.) require a central source or data repository that consolidates information from disparate systems
  - > When siloed data is integrated and shared cross-functionally, it may lead to better analysis and insights
- In order to govern and manage data effectively, NC DPI could develop a formal data management framework that defines the key capability components for sourcing, validating, and sharing data

Source: EY's analysis of NC DPI documents; Interviews with NC DPI staff



There are at least 4 needs- or self-assessments that NC DPI teams employ to gather LEA data; these could be streamlined as part of the effort to improve analytics

1	2	3	4		1
Comprehensive Needs Assessment	LEA Self- Assessment	District Capacity Assessment	Self-assessment of Multi-Tiered System of Support		Potential New Single Needs Assessment
Business owner					Business owner
<ul> <li>Federal Programs Monitoring</li> <li>Educator Support Services</li> </ul>	<ul> <li>Exceptional Children (EC)</li> </ul>	<ul> <li>Office of Early Learning</li> </ul>	<ul> <li>Integrated Academic and Behavior Systems</li> </ul>	,	<ul> <li>Regional Support Team (refer to recommendation 6)</li> <li>Supports data needs / data use of multiple teams at NC DPI</li> </ul>
Audience and Purpe	ose				Audience and Purpose
<ul> <li>School leadership</li> <li>Analyze data trends</li> <li>Identify areas for growth</li> </ul>	<ul> <li>District leadership, EC administrators</li> <li>Analyze data for selection of local leading practices</li> <li>Align state support of EC infrastructure</li> </ul>	<ul> <li>District and regional implementation teams</li> <li>Align resources and develop action plans to support instructional staff</li> </ul>	<ul> <li>School leadership</li> <li>Assess school Multi- Tiered System of Support (MTSS) structures</li> </ul>		<ul> <li>Currently, a cross-functional NC DPI team is reviewing existing assessments to reduce redundancy, develop common scales and planning tools</li> <li>In the future, the regional team would work with LEA leaders to complete a consolidated assessment, collecting data points for multiple program areas</li> </ul>
Reporting				′ I	Reporting
▶ NC STAR	<ul> <li>Excel spreadsheet; State Systemic Improvement Plan (SSIP) used for discussion with LEA</li> </ul>	<ul> <li>Excel spreadsheet used to facilitate discussion with the district</li> </ul>	<ul> <li>MTSS application used to facilitate discussion with school leaders</li> </ul>		A new NC DPI group with strong analytical capabilities would provide Regional Support Teams, LEAs and schools with data to drive decision- making in the field (refer to recommendation 6)

Consolidating district and school needs assessments into **one comprehensive needs assessment** can help reduce redundancy for LEAs and schools, enable more strategic data use in shaping district plans, and improve prioritization of programmatic supports to the field

Source: NC DPI internal documents, EY interviews

ΕY

While there is a process for policy creation at NC DPI today, there are opportunities to clarify the process and increase transparency for the organization broadly

#### Illustration of Current NC DPI Policy Creation and Review Process



improve the development of new policies that reflect the day-to-day realities and priorities of impacted teams

Source: NC DPI internal documents, EY interviews,

NC DPI has an opportunity to build a strategic and collaborative budget process with an increased awareness amongst the Divisional Heads

	1	Planning	2	Budget Development	3	Allocation	4	Execution	5)	Reporting
Current process narrative (2018-2019 agency budget development)		Finance provides division heads with previous year budget Division heads review proposed budget and provide feedback on areas of expansion to Deputy Superintendent and/or appropriate leadership team members Finance collects budget expansion feedback from leadership		Budget Section creates a full first draft of the budget for the upcoming fiscal year based on the previous year and select expansion items identified by leadership Expansion items are submitted to the State Board of Education (SBE) for approval SBE-approved expansion budget submitted for consideration by Governor and General Assembly in advance of legislative session Federal planning process is separate process done in collaboration with EC, Career and Technical Education (CTE) and Federal Programs		Budget Section works with NC Office of State Budget and Management (OSBM) to certify the budget (including approved legislative adjustments) in state accounting system Once the budget is certified, Budget section allocates funds to each division according to the approved budget As allocations are released, Division Heads to work with budget analysts to make minor adjustments within their state budget lines based on how needs of their organization have changed since the budget was initially drafted several months earlier		Division Heads are expected to own their budget and monitor spending but it is done with varying level of consistency Division Heads have the ability to request shifts in funding between line items as needed Budget section monitors the budget to ensure funding is expended in a timely manner to avoid overspending and/or a loss of state funding If questions arise, each budget analyst works with the Division Head(s) they support to reach a resolution		Finance provides reports to OSBM and General Assembly, on an as requested basis Budget Section is expected to provide monthly status reports to budget owners, but it is done with varying levels of consistency Additional reporting requests are made ad hoc by program areas Finance is responsible for annual creation of Consolidated Annual Financial Report
Potential opportunities for improvement	•	NC DPI could develop strategic finance plan that incorporates return on investment (ROI) and cost savings to allow for more effective long-term planning Leadership could develop annual priorities for Division Heads to review budget and identify expansion areas	•	NC DPI could develop and communicate an annual budget planning process, including clear division of roles and responsibilities The process could be designed to result in a budget aligned to DPI's high priority programs to focus investment in the evidence-based areas NC DPI could create regular contact points between Finance and program areas to track spending against priorities and budget	* * *	Perform training and webinars for each employee around budget development Educate employees on the funding process to identify shortages or gaps in funding so they can elevate concerns during the budget process to reduce budget requests throughout the year NC DPI could set clear deadlines beyond which major budget requests will not be considered	•	NC DPI could engage with program areas to assist in the budget planning process in order to allow each stakeholder to monitor funding and spending during the budget cycle and make budget and business decisions as needed NC DPI could set clearer processes around budget change requests from program areas to allow them to proactively plan spending	•	NC DPI could assess spending on an annual basis to seek savings opportunities in areas that don't align with priorities or are not achieving outcomes. Doing so will allow funds to support high impact initiatives Finance could provide bi-weekly or monthly updates on spending to program area budget owners

Source: EY Interviews with Finance Business Services and Budget Section, EY analysis



Interviews and analysis of NC DPI data highlight significant challenges, limitations and pain points in the contracting process

Initiation	The RFP process is limited by long lead times (e.g., <b>2-4 weeks for DIT</b> counterpart <b>to review the</b> <b>intent</b> to contract documents). The process can be accelerated through standardized RFP formats which will limit back and forth between state level agencies
Proposal / Approval	All information in the approval processes is manually logged into separate spreadsheets. This introduces the chances of human error, delays, and challenges in tracking the progress. The <b>approval time varies between 6 months and sometimes even up to 1.5 years,</b> according to NC DPI interviews
Execution	Generally most contract information is entered into e-procurement only after signing. In other cases, such as <b>personnel contracts</b> with other government agencies (e.g. state universities), the information is <b>entered inconsistently into e-Procurement</b>
Contract Management	A comprehensive <b>list of contracts</b> and their <b>expiration dates does not exist</b> , which interviewees indicate severely constrains effective contract management
Payment	The current procurement process involves <b>multiple manual steps and controls</b> executed by Accounts Payable prior to release of payments to the vendors

Source: EY Interviews, internal documents, EY analysis



The current system for tracking contracts involves many approvals and takes a significant amount of time (according to NC DPI interviews)



Source: EY Interviews, internal documents, EY analysis



# Supporting analysis recommendation #6 A significant number of NC DPI FTEs and contractors are in the field directly supporting

LEAs

		o internal data and interviews, 88 staff and ne field are associated with functions that could					con HR Data ing contractors)
Type of Support	be embedded Division	into a coordinated regional support structure Section	DPI Field Staff	Type of Support	Division	Section	DPI Field Staff
	Digital Tapabing	Digital Learning Initiative Consultants	5				
	Digital Teaching and Learning	Statewide Educators on loan	2	ب		Transportation Services	3
	and Loanning	DTL Area Consultants	4	Operations Field Support			Ū
	Office of Early	K-3 Literacy	9				
	Learning	K-3 Formative Assessment Consultants	8	0 10			
		School Portfolio Support Teams	15	Fie	School Operations Exceptional	School Nutrition Services	23
	Educator Support	Professional Development Coordinator	2	ns			
ort	Services	Service Support Teams	17	atio			
ddi		Regional Education Facilitators	8	)er (			
l Su		Regional Administrative Support	6	ŏ		School Planning	7
Academic Field Support		Program Improvement and Professional Development (Reading/Math Foundations)	8				
mic	Exceptional	Special Programs and Data	3			Policy, Monitoring and Audit	
ade	Children	Behavior Support Section	2	and ce			8
Aci		Sensory Support and Assistive Tech	5	a anc	Children		
		Supporting Teaching and Related Services	6	plia			
		EC Delivery Team	4	nitoring a			
	Integrated Academic and Behavior Systems	Systems and Practices Sections (MTSS Consultants)	12	Monitoring a Complianc	Accountability	Regional Offices	13
	Career and	CTE Regional Services	6				
	Technical Education	Agricultural Regional Services	3	Total NC D support ar	eld providing operational onitoring	54	
<b>Total NC</b>	DPI Staff in the fie	ld providing academic support	125				

Note: NC DPI Field Staff includes Internal Auditor's estimated LEA and IHE contractors; Data do not include Advanced Learning Volunteer Teachers or Early Learning Sensory Support Teachers Source: EY analysis of internal NC DPI Data; EY Interviews



Recommended Regional Support Teams (RSTs) could include or directly support DPI's Academics functions; they would coordinate with other agency and field-based supports



#### What would it take to be successful?

- Interviews indicate that important lessons can be drawn from past experience developing regional structures at NC DPI, including specific elements essential to the ongoing success of any new regional structure:
  - Aligned, overarching goals
  - Culture/mindset of collective impact
  - Clear reporting structure to reinforce collaboration across current silos
  - Shared budget to create incentives for collaboration
  - Common data and a shared approach to using it
  - Clear and enforced protocols
  - Common approach to communicating with the field and rolling out/implementing new programs (e.g. use of implementation science leading practices)
  - Ongoing training and professional development for all regional team members
  - Regular opportunities to bring together all regional teams for in-person meetings and trainings

Note: \*Educator Talent is a new office comprised of several existing educator support functions which currently reside in disparate offices across NC DPI Source: EY interviews, EY analysis



# **Supporting analysis recommendation #6** Recommended Regional Support Teams could aim to improve the coordination of academic support to LEAs

chools	Strategic data use planning, and	egional Leaders could work with LEAs in their region to perform a single <b>streamlined needs</b> <b>t</b> , involving the review of school performance and progress data to support district and school d to identify areas of need aders could improve <b>ongoing use of data</b> for strategic planning and decision making at the mool level					
All LEAs/Schools	Structured communication and coordination Band coordination	Regional Support Teams <b>could coordinate all academics-related communication</b> to LEAs and schools in their region, and employ a consistent approach to sharing information and rolling out new mandates, policies and initiatives Conversely, Regional Support Teams could serve as <b>a single point of contact</b> for LEAs and schools to streamline support and reduce confusion for the field Regional team members could <b>coordinate closely with centrally-based program area leads</b> , and would support central agency staff awareness of field-based efforts					
5 0	Statewide support LEAs and schools above bott	tom 5% Support for low-performing districts and schools					
approach for EAs/Schools	<ul> <li>For LEAs and schools above the bottom Support Teams could maintain a "menu professional development that would be on needs identified in the region's needs</li> </ul>	a" of support and participate in the annual needs assessment process to identify high need areas and to reflect these needs in Regional Support					
Potential app specific LEA	<ul> <li>Supports and professional development state to these LEAs would align to progr that are (a) evidence-based and (b) high DPI</li> </ul>	rams and initiatives priority areas, low-performing LEAs and schools receive support					
Pot spe	<ul> <li>Regional Leads could use each LEA's n to help match LEA needs to appropriate</li> <li>LEAs would use local resources to mee outside of DPI's highest priority area</li> </ul>	e NC DPI supports can partner to support identification of appropriate supplemental					

Source: EY Interviews and discussion with management

Regional Support Teams' roles and responsibilities would need to strike a balance between providing direct support to LEAs and empowering LEAs to make locally-appropriate decisions

Regional Lead	Program Area Supports	Low-Performing School/District Supports
<ul> <li>Regional Leads could be charged with:</li> <li>Driving the use of data in LEAs and schools across their region</li> <li>Overseeing the annual needs assessment including a review of data and identification of needs</li> <li>Ensuring that available program area supports reflect regional needs</li> <li>Ensuring that low-performing schools and districts are accessing high-quality, evidence-based external supports to address their identified needs</li> <li>Ensuring that communication to the field is clear, regular and consistent, and that DPI's "brand promise" resonates and is seen as reliable by the field</li> </ul>	<ul> <li>Recommended program areas include: Foundations of Reading and Math, K-3 Literacy, K-3 Formative Assessment, IA&amp;BS, and Digital Teaching &amp; Learning</li> <li>RST program area staff could support schools and districts in the region by coordinating and delivering professional development based on the needs identified in that region; this professional development would be available to all schools and LEAs in a region</li> <li>RST program area staff could also serve a liaison function, supporting communication and roll-out to the field, and providing central teams with field-level feedback</li> </ul>	<ul> <li>Low-performing school/district supports are comprised of Educator Support Services (ESS) staff in these roles today</li> <li>However, rather than providing direct support to low-performing (LP) schools or districts, within the RST structure, these support staff could serve as an <i>enabler</i>:         <ul> <li>Regularly reviewing performance data</li> <li>Driving awareness and use of supports already being provided by the RST program area staff in a region</li> <li>[Where needed supports are <i>not</i> provided by the program area staff]</li> <li>Defining what high-quality support looks like, and supporting LP schools/districts to identify quality external supports</li> <li>Providing guidance for continually low-performing schools on NC reform model selection and reviewing reform plans</li> <li>In this future structure, support staff could be assigned to regional teams as follows:</li> <li>1 per LP district</li> <li>1 per 5 LP schools</li> </ul> </li> <li>LP support staff are not expected to work alone, but rather could create professional learning communities (PLCs) or groups based on need in each region</li> </ul>

Source: EY Interviews and discussion with management



Regional structures exist in other states and provide varying levels of direct support to districts



Structure

- Louisiana's "network" structure envisioned 5 regionallybased teams of ~10 members each whose primary focus was on building capacity at the school and district level
- Over time, the regional structure has been streamlined to 3 network teams of 7-8 members each
- Support for low performing schools sits within the Portfolio office

Support to districts

- Today, these teams continue to serve as trusted advisors in the field
- However, these teams operate with a narrower scope, focused on ensuring the districts have purchased a high quality curriculum and are identifying the right professional development supports
- Louisiana has identified a menu of approved curriculum and professional development, and networks work with their districts to procure high quality resources in lieu of providing them directly to districts



- In Kentucky, low performing schools receive direct support from the Department of Education while all other schools can opt into an educational cooperative in their region
- ► Across the 3 low performing schools regions:
  - Educational Recovery Directors support the creation of partnerships with universities, educational agencies, and external stakeholders in each region
  - Additionally, Educational Recovery Leaders and Specialists provide direct support to teachers in schools
- Kentucky has 9 "educational cooperative" offices which offer opt-in services for schools in their region
- Educational Recovery staff in low performing schools focus on supporting literacy and math; they aim to align their support with the mission / vision of the school leader
- Meanwhile, cooperative offices are very involved in providing professional development, hosting regional meetings, and offering training sessions for member districts
- Cooperatives also work to enable districts to maximize their purchasing power through cooperative purchasing / bids

Note: States were selected in accordance with NC DPI criteria (e.g south-eastern location and focus on reform within the state education agency) Source: States Department of Education websites, EY Interviews



NC DPI offers a range of diagnostics and formative assessments today, but educators note that it is not clear which assessments are required, and how optional ones should be used

Grade span	Summative assessment	Diagnostic tools & formative assessment	Formative assessment owners/ involved offices
PK – Grade 3	<ul> <li>End of Grade Assessments (grade 3 only)</li> <li>With multiple formative assessments offered in grades K- 3, educators note that there is a lack of clarity regarding those which are optional versus those which are required</li> </ul>	<ul> <li>Kindergarten Entry Assessment</li> <li>K-3 Formative Assessment</li> <li>mClass</li> <li>Beginning of Grade 3 Test</li> <li>End of Grade 3 Reading Retest</li> <li>Read to Achieve Test (alternative)</li> <li>NC Early Numeracy Skill Indicators</li> <li>MTSS Diagnostics (grade span TBD; in development)</li> <li>NC Check Ins (TBD)</li> </ul>	<ul> <li>Office of Early Learning</li> <li>Office of Early Learning</li> <li>K-3 Literacy</li> <li>K-3 Literacy</li> <li>K-3 Literacy</li> <li>K-3 Literacy</li> <li>Gffice of Early Learning</li> <li>Integrated Academic and Behavior Systems</li> <li>Accountability</li> </ul>
Grades 4–8	<ul> <li>End of Grade Assessments</li> <li>NC Final Exams (subject specific)</li> </ul>	<ul> <li>ELA/Reading NC Check Ins (grades 5-7 only)</li> <li>Math NC Check Ins (grades 4-6 only)</li> <li>MTSS Diagnostics (grade span TBD; in development)</li> </ul>	<ul> <li>Accountability</li> <li>Accountability</li> <li>Integrated Academic and Behavior Systems</li> </ul>
Grades 9–12	<ul> <li>End of Course Assessments</li> <li>NC Final Exams (subject specific)</li> <li>ACT OR College and Career Readiness Alternate Assessment (grade 11 only, alternative to ACT)</li> <li>CTE Assessments (CTE concentrators)</li> <li>ACT WorkKeys (CTE concentrators)</li> </ul>	<ul> <li>PreACT OR College and Career Readiness Alternate Assessment (grade 10 only, alternative to PreACT)</li> </ul>	▶ Accountability
(ii	Office of Accountability is responsible for the de partnership with Institutes of Higher Education administration of all summative assessments ir ndated ELL assessments and screeners PI website, EY interviews	n) and F I NC C	<b>Legend</b> (based on interviews and research) Required assessments Optional assessments Assessments in development

#### NC K12 Assessment Landscape



Currently, educator support functions exist in at least three offices, with additional offices (such as Finance) seen as holders of educator-related policy





Primary research with LEAs identifies several challenges to working with NC DPI, but also shows that LEAs appreciate pockets of strong educator support

Educators report several pockets within NC DPI provide strong support	<ul> <li>"We are very satisfied with the level of support and quality of support that DPI provides to our teachers. They are supporting thousands of teachers across state effectively" – Regional Teacher of the Year</li> <li>"The beginner teacher professional development trainings and webinars are extremely valuable for our teachers. Our LEA depends on the DPI-trained Beginner Teacher leads to disseminate best practices and guide our new teachers. DPI does a great job with this program" – Regional Teacher of the Year</li> </ul>
However, educators also find that there are challenges to working with NC DPI	<ul> <li>"DPI's organizational structure creates confusion; its silos are evident. We don't know who to call for help. We would love to have one go-to resource or representative to assist in navigating DPI's support structure" <ul> <li>Current Superintendent</li> </ul> </li> <li>"We need more consistent communication to our teachers - in the format and timing. Right now, I don't know which team to at DPI to contact regarding educator support. I often worry about what am I missing" – Chief Academic Officer</li> <li>"Often times I find the answers we receive from DPI vary depending on the person you talk with. If I call in the morning, and then call back later that afternoon, I likely will receive different answers [depending on who I talk to]" – Current Teacher</li> <li>"One of the biggest challenges of working with DPI is the Licensure department. We need both more clarity into the Licensure approval process and more communication on who the 'go-to' folks are within the division that support our district schools" – Current Superintendent</li> <li>"Licensure is one of the few aspects of DPI that all districts must interact with. The process is entirely broken and we are losing teachers because of it" – Former Superintendent</li> </ul>
The recommendation to create an Educator Talent Division can help to address current pain points	<ul> <li>An Educator Talent Division could support educators along the full teaching continuum by consolidating functions that currently exist in disparate offices or do not exist at all</li> <li>Combining all functions related to teacher and educator talent into a single office could support improved service delivery by creating a single point of contact at NC DPI for educators and administrators, and by supporting clear and consistent messaging to the field</li> </ul>

Source: NC DPI field feedback survey (n=87); District CAO Focus Group (n=4); District Superintendent and RESA Director Focus Group (n=9); Regional Teachers of the Year Focus Group (n=9)



Virginia, West Virginia, Ohio and Tennessee have licensure in the same office with educator effectiveness and support



Note: States were selected in accordance with NC DPI criteria (e.g south-eastern location or leading practice in educator support) Source: NCES; EY Analysis, State websites



There is an opportunity to improve the model for IT support to the field



#### **Supporting Analysis**

- Interviews identified efforts by the NC DPI Tech Support Group to reduce resolution times to the field, but analysis of internal data suggests issue resolution time remains high:
  - Currently, ticket resolution time is **12 days on average** for any type of issue (from password resets to more critical issues)
  - Commercial organizations take an average of 7 days to resolve the highest priority incidents
- Interviews indicate that long resolution times are primarily due to:
  - Bottlenecks created by requiring support calls to go through NC DPI Technology Services
  - Multiple escalations and handoffs to get to the appropriate point of contact for resolution
  - Limited bandwidth and inadequate staffing at NC DPI Technology Services to effectively support volumes
- Interviews suggest that the current model of augmenting staff to support increasing requests is very difficult to scale as new and updated applications are added to NC DPI's portfolio

Note: Future state model based on recommendation to move support to vendors; reflect industry leading practices Source: EY analysis of internal documents; interviews with NC DPI staff



There is an opportunity to rethink the IT model, structure and roles across NC DPI and consolidate IT-related functions

#### **Current NCDPI Organization Structure**



"Shadow IT" groups embedded in the business

- Potentially redundant shadow IT roles include:
  - Tech Support Analysts
  - Business Technology Analysts
  - Data Managers

- Networking Analysts
- Systems Specialists

#### **Supporting Analysis**

- Approximately 44 FTEs are dispersed across the agency performing IT activities
- Analysis of internal data indicates these FTEs support specific business units, yet interviews suggest Technology Services still feels short staffed and unable to support the business
- Based on analysis of current personnel data, over 57% of the decentralized FTEs appear to be redundant roles
- Demand for additional technology support by program areas may make it challenging to scale the current model
- Centralizing shadow IT under a single point of leadership may lead to potential financial savings and an improved ability to enforce technology standards and appropriately monitor and support applications

Note: "Shadow IT" refers to resources performing IT related functions that reside in divisions outside of the IT organization Source: EY analysis of internal documents; interviews with NC DPI staff



By outsourcing IT functions not related to its core educational mission, NC DPI could devote its resources to better support agency priorities



#### IT function staffing as a % of total IT personnel

IT Function	NC DPI Technology Services	Government Agencies Average
Database Administration	7%	3.8%
Tech Support/Help Desk	12%	7.2%
Quality Assurance/Testing	7%	2%
Project Management Office	7%	4%
Desktop Support	4.5%	4%

\*\*Benchmark: Computer Economics, 2017

#### **Supporting Analysis**

- IT is people-intensive: NC DPI IT's allocation of staff to common IT support functions is analyzed as well above the benchmarks
- More than 75% of government agencies are increasing their budgets for IT outsourcing to reduce their reliance on personnel
   Computer Economics, 2017
- Interviews suggest NC DPI Technology Services should do more to keep up and evolve with the industry, and aggressively push to do more with less through outsourcing
- The remaining IT functions at NC DPI can focus on:
  - Accelerating IT's response to the technology needs of the agency (Business Relationship Manager function)
  - Providing valuable support to the LEAs (Security services, Data, etc.)

Source: EY analysis of internal documents, interviews and secondary research; recommendation is based on discussion with management and acknowledgement of need to evolve



Potential benefits of a Business Relationship Management (BRM) Function

To shift the way Technology Services serves NC DPI, Technology Services could establish a BRM who serves as a strategic partner to business owners, assists them with identifying solutions, and advocates for the business within Technology Services

#### **Potential Responsibilities**

- Liaison between the NC DPI academic areas, administrative functions, and Technology Services to create a shared understanding of technology priorities and needs
- Understands business issues and partners with the business to ideate/innovate/problem solve
- Owns the technology intake function to shape, capture, and prioritize demand from/for the business
- Holds IT vendors accountable to agreed timelines, outputs and reliable service measures
- Follows up and drives closure on IT operational issues on behalf of the business
- Shares insights on IT solutions and emerging technologies that are relevant to business issues
- Assists the agency and functional teams in exploiting existing data and IT capabilities to drive business decisions

#### **Description of Potential Role**

Business Relationship Manager- Role Description Organization: Business Technology Division, IT



DPI is seeking a highly motivated professional to act as the primary liaison between DPI business units (Academic and Administrative functions), and IT.

This is a senior level role responsible for understanding business needs and priorities, driving business / IT alignment, facilitating delivery of reliable IT services to the business and ensuring a continuous improvement focus on IT services on behalf of the business.

As a leader of a small team of new and experienced business analysts, you will be expected to manage alignment, coverage and development of your team across the different business areas and functions

You will also work closely with external agencies such as DIT, and vendors to help facilitate the successful delivery of business technology for the agency

#### Primary responsibilities:

- Be proactive and work with the business partners in defining the issue and shaping the demand for technology products as well as annual plan (not an order taker)
- Leverage knowledge of emerging technologies and existing applications to bring new ideas / innovative solutions for DPI
- Advise the business on value and strategic implications of technology decisions in support of the agency's goals
- Analyze IT cost and performance measures to identify optimization opportunities for the business

- Facilitate risk escalation / issue mitigation between business and IT teams
- Act as the primary point of contact for all IT services and ensure reliable delivery in line with agreed performance measures (Own the IT experience to the business)
- Follow up / drive closures on IT operational issues on behalf of the business

Source: EY client leading practices



Our recommendations address areas of a capability model that appear to be lacking within NC DPI today

### IT capability model (level 1 view)



Source: EY analysis of internal documents, interviews with NC DPI staff and secondary research

The combined need to improve support to NC DPI, innovate, and deliver reliable and secure technology could potentially drive IT further to a vendor-cloud model



While many applications and infrastructure are developed, hosted and supported by Technology Services at NC DPI, the larger more costly applications are developed, deployed and supported by vendors and are highly customized for NC DPI. NC DPI has recognized the need for vendor and cloud services but has not formalized an approach

2 By hosting with vendors, NC DPI controls ownership and deep customization of applications, but avoids efforts to maintain, develop and backup hardware and software platforms, and upgrade applications

In this hosting model, NC DPI could look to consume leading applications directly with potentially minimal customization in order to reduce ownership and overhead, while benefitting from the latest emerging technologies the industry has to offer

Source: Figures and analysis sourced from interviews with NC DPI staff and internal documents

#### Supporting Analysis

- Based on NC DPI interviews, 30-40% of the total application landscape is developed in-house at NC DPI through APEX tools (many by non-IT resources)
- Analysis of internal budget data suggest current spending is allocated to supporting aging infrastructure (e.g., mainframes, Windows 2000 servers)
- Basic but critical services, such as Disaster Recovery, appear to be lacking
- External vendor development and hosting covers many of the highly resource-intensive services that otherwise NC DPI would have to support (e.g., application support, patching, upgrading, monitoring, backups, restoring during disasters)
- Through a vendor first/cloud next approach, NC DPI Technology Services resources could be freed up to fulfill the urgent needs of the agency:
  - Advise on IT procurement and RFPs
  - Insights on IT solutions and emerging technologies

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3

Rationalizing and modernizing NC DPI's application landscape could create more optimal investments in technology





#### **Supporting Analysis**

- Interviews suggest over 90 applications are dispersed across the agency, many of which:
  - Run on outdated platforms and are disparate
  - Provide redundant functionality
  - Require high costs to maintain
- NC DPI operates numerous siloed systems resulting in higher application spend than the industry benchmark (according analysis of internal data and market research)
- By rationalizing and modernizing the existing set of applications, and designing a future state application portfolio NC DPI could:
  - **Drastically reduce** the number of **applications** used to support NC DPI and the LEAs
  - Replace aging disparate systems with up-to-date end-to-end solutions
  - Eliminate manual processes through the use of modern technology (e.g., contract management)

Note: Application spend includes resources allocated to application development outside of IT Source: EY's analysis, internal documents, interviews with NC DPI staff, secondary research





Potential portfolio assessment methodology based on leading practices

#### Application assessment based on clustering



Analyze clusters of redundancies and overlaps

#### Portfolio assessment



**Portfolio Assessment** 

**Target state** 



#### What is the compliance of my application compared to my strategy?

**High level decision Tree** 

- What is my architectural conformity?
- What are my costs/costs efficiency?
- Target: Identification of applications which can be expanded strategically and group-wide, or used longterm locally
- Identify application to use with regard to agency requirements and local needs

#### Assess each application via dimensions and criteria



Document results per cluster

Execute and realize "quick wins"

#### Validate the strategic importance of each application



Strategic importance

#### **Application roadmap**

► Retire b. Application roadmap

- Requirements from IT-strategy
- Derive IT investment strategy from the overall fit of an application for strategic areas of action

Application assessment using the defined evaluation dimensions and

associated set of criteria

Weight and score applications

based on cluster importance

- Combine with strategic importance of the business functions/ processes it supports
- Define the roadmap to
  - Keep
  - Tolerate
  - Freeze
  - Replace
- an application

Source: EY's analysis, internal documents, interviews with NC DPI staff, secondary research



NC DPI internal data indicates that there are 113 vacancies within the organization and an additional 84 contractors, some of whom may be filling vacancies



Note: Excluded or out of scope includes Licensure, NCVPS, residential schools, State Board of Education, Office of the State Superintendent and NCCAT; Number of contractors is derived from Internal Auditor's estimated LEA and IHE contractor list; data reflects full-time contractors determined by EY Analysis, is not exhaustive and does not include Temp Solutions; School Operations vacancies may be understated due availability for the function Source: Internal NC DPI Data; EY Analysis



The inefficient hiring process to fill vacancies at NCDPI has impeded effective operations



Source: EY Interviews, internal documents, EY analysis



There is an opportunity to use existing technologies & leverage automation to expedite the Talent Acquisition process based on assessment of DPI's existing workflow



Source: EY interviews, internal documents, EY analysis



NC DPI interviews highlight some key HR roles have been vacant for an extended period, aggravating challenges to complete HR transactions in a timely manner



Source: EY Interviews, internal documents, EY analysis

Interviews suggest that the HR office spends a significant amount of time backfilling roles at the residential schools and does not have sufficient capacity to focus on strategic functions

Functional areas	HR director	Assistant director	HR FTE 1	HR FTE 2	HR FTE 3	Benefits specialist	Recruiter
Onboarding/Off-boarding			х	Х			
Residential School Support	х	Х	х	Х	Х	х	
Recruiting	Х	Х	х	Х	Х		Х
Salary/Classification	Х						
Record Keeping (including time and attendance)			     	Х	Х		
Benefits/Leave						Х	
Performance Management			х	Х			
Data Management			х	Х			
Equal Employment Opportunity/Employee Relations	х	х	х				
Succession Planning							
Learning & Development							

Source: EY Interviews, internal documents, EY analysis



Leading practices indicate that succession planning can drive the smooth transfer of knowledge and responsibilities



Source: Corporate Leadership Council research: Succession Management Survey



Leading practices demonstrate how aligning purpose and mission could transform an entity like NC DPI into a collaborative and innovation-driven organization



#### Source: Secondary research



An employee survey could help identify needs, while improved communication tools and processes could contribute to reducing current silos

Interviews indicate NC DPI staff feel as though there isn't consistent communication which can impact their ability to do their job effectively

- "[We need more] collaboration and communication between Divisions and Sections, along with consistency of procedures across the board. A lot of times we feel so siloed even within the Sections of our Division and do not know what is going on with one another"
   NC DPI Central Office Staff
- "DPI is organizationally structured based on legislative mandates/funding as opposed to being organized around specific outcomes. This has led to multiple areas working toward similar goals and impacting the same end users, but rolling out their services in silos. This then causes efforts to be duplicated, inconsistent and contradictory communications, and lack of accountability for results/performance." – NC DPI Central Office Staff

An employee engagement survey could help identify and track employee satisfaction and needs	Consistent internal communication can help to break down silos		
<ul> <li>Survey employees annual to understand level of satisfaction with job, understanding of agency priorities and assessment of employee needs</li> <li>Surveying employees annually can help to provide data around progress that is made to improve the communication and culture within the department</li> <li>When used effectively and shared back with employees, surveys can greatly increase organizational transparency and contribute to employees' sense of trust and morale</li> </ul>	<ul> <li>A set of consistent communication structures can help to support broader awareness among employees of the work at NC DPI and foster more collaboration</li> <li>These could include structures such as:</li> <li>Regular leadership team meetings</li> <li>Monthly newsletters</li> <li>Quarterly "all hands" or town hall-style meetings</li> </ul>		

Source: EY Interviews, internal documents, EY analysis

By making learning and development a priority, NC DPI can improve its ability to attract and retain the right talent

#### By elevating a learning culture ...

NC DPI could build a **roadmap designed to achieve change** through enhanced strategic governance, improved discipline, and a focus on developing the infrastructure for innovation in learning



- Grow learning and development (L&D) to be an enabling and strategic partner to business owners so that together NC DPI can meet transformation needs
- Elevate learning culture for everyone, in every part of the business – everybody leads, everyone can learn, transform the people to transform the organization
- Create an enriched learner experience which is personalized and meets the needs of the workforce

Leading learning trends Centralized function: Many leading learning organizations have a central learning team to consult with business units (BUs)<sup>4</sup> and 74.8% of organizations make learning technology decisions centrally<sup>2</sup> Emerging Skills: On average 8% of learning offerings are allocated to the latest professional or industry skills<sup>2</sup> 39% of organizations focus on developing learning pathways to address skill gaps in the next 12 months<sup>2</sup> Governance: 81% of organizations focus on their learning organizational structure and governance in the next 12 months<sup>2</sup> ATD: 2017 State of the Industry Report Brandon Hall: 2017 Training Benchmarkin, Training Magazine: 2017Training Industry Brandon Hall Excellence in Learning Case

Source: Secondary research



Example of operating model for Learning & Development function



Analysis of NC DPI data suggests NCVIP-driven performance management results are not clearly correlated with compensation



Salary Adjustments between FY16 and FY18

#### Methodology

- ▶ Employees whose NCVIP performance management information is available for FY16 and FY17
- ▶ Employees whose compensation information is available for FY16 and FY18
- ▶ Job level to which over 20 people are assigned
- NCVIP Weightage = "Does Not Meet Expectation": 0; "Meets Expectation": 1; and Exceeds Expectation: 2 (e.g., FY16 "Meets Expectation" and FY 17 "Meets Expectation" Weight = 2)

Source: Beacon HR Data; methodology confirmed by NC DPI in advance of analysis



There is significant variation observed in salary increases within a job level



#### Methodology

- ▶ Employees whose NCVIP performance management information is available for FY16 and FY17
- ► Employees whose compensation information is available for FY16 and FY18
- ▶ Job level to which over 20 people are assigned
- NCVIP Weightage = "Does Not Meet Expectation": 0; "Meets Expectation": 1; and Exceeds Expectation: 2 (e.g., FY16 "Meets Expectation" and FY 17 "Meets Expectation" Weight = 2)

Source: Beacon HR Data; methodology confirmed by NC DPI in advance of analysis





NC DPI Maintenance of Effort Context

### The state is also subject to specific federal requirements for LEAs and state agencies that require states to maintain support for specific federal programs

	►	NC DPI receives funds from various federal programs, but its largest federal funding streams include those		
		consolidated under ESSA (Title programs), IDEA (special education), and Perkins (career and technical education, or		
		CTE)		

#### While the majority of the funds NC DPI receives from the federal government are passed through to LEAs and schools, NC DPI does maintain some funds at the central agency level for state-wide programs and to cover grant and program administration costs; these funds are subject to maintenance of effort requirements

	ESSA (Title funding)	IDEA	Perkins
Federal program	<ul> <li>ESSA Title funds provide supplemental support for a range of student sub- populations (e.g. ELL, SPED)</li> </ul>	<ul> <li>IDEA funds provides support for special education students and families</li> </ul>	<ul> <li>Perkins program funding provides support for CTE programming statewide</li> </ul>
SEA maintenance of effort requirements	<ul> <li>The state receives its full ESSA allotment for a given year provided:         <ul> <li>(1) the state's fiscal effort per student or in aggregate for the prior fiscal year is at least 90% of the fiscal effort of the second prior year, and (2) there is not an additional instance of noncompliance in the previous five fiscal years</li> </ul> </li> </ul>	The state receives its full IDEA allocation provided the state has maintained its support for special education programs at <b>at least 100%</b> of prior-year funding levels, relative to federal funding	<ul> <li>The state receives its full Perkins allocation provided the state has maintained its support per student or in aggregate for CTE programs at at least 100% of prior-year funding levels</li> </ul>
Other considerations	<ul> <li>Consolidated reporting: NC DPI is able to consolidate administrative cost reporting across ESSA programs because the department meets the requirements allowing for consolidation (state agencies must be &lt;50% federally- funded to consolidate reporting)</li> </ul>	<ul> <li>Cross-agency collaboration: DPI's Exceptional Children Division consolidates relevant state spending across agencies to complete IDEA's Maintenance of Fiscal Support (MFS) requirement for the state; agencies are:</li> <li>Dept. of Public Safety</li> <li>Dept. of Health and Human Services         <ul> <li>Division of Public Health</li> <li>Division of Vocational Rehabilitation</li> </ul> </li> </ul>	<ul> <li>Cross-agency collaboration: NC Dept. of Community Colleges is a sub-grantee of NC DPI for the Perkins grant; NC DPI FBS annually consolidates relevant expenditures to assess MOE</li> <li>Expenditures excluded from MOE: MOE calculations exclude spending on capital expenditures, special one-time projects and pilot programs in CTE</li> </ul>

Note: Under IDEA, state-level funding maintenance requirements are referred to as 'maintenance of fiscal support' (MFS) to distinguish from LEA-level 'maintenance of effort' (MOE) requirements Source: USED, NC DPI Financial and Business Services team, state education agency websites



Maintenance of fiscal support (MFS) for IDEA is calculated statewide; federal and state funding for special education have both increased over the last three years



Note: Maintenance of effort (MOE, used under ESSA and Perkins) is equivalent to maintenance of fiscal support (MFS, used under IDEA) Source: DPI Financial and Business Services team



Maintenance of effort calculations for Perkins-supported CTE programs include NC community college system funds; state funding has increased in recent years



Source: NC DPI Financial and Business Services team



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