A Retrospective on Implementing Common Course Management Systems:

Motivations, Benefits, Drawbacks and Recommendations

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TABLE OF CONTENTS

INTRODUCTION

Launched in 2014, the California Community Colleges Online Education Initiative (CCC OEI) is a collaborative effort to enable community college students across the state to reach their educational goals by increasing access to high quality online courses and providing support systems to foster success in those courses. One component of the CCC OEI is the implementation of a common course management system (CMS, but also known as a learning management system or LMS) that would be centrally supported and employed to offer courses that would ultimately be available system-wide. Following a thorough selection process, Canvas by Instructure was selected as the common CMS in early 2015 for two purposes – as the platform for all cross-college courses and as an option for the system's colleges to consider. As of publication of this report in April 2016, over half of California's 113 community colleges have formally indicated their intent to adopt Canvas as their sole CMS. The CCC OEI is providing support to those colleges making the transition to Canvas and, initially, covering its cost with the expectation that the funds normally dedicated to covering the cost of a CMS would be used to support online instruction in other ways. It is anticipated that OEI funds will be used to cover some component of the cost of the CMS on an on-going basis.

The OEI Steering Committee endorsed the identification of a CMS for the OEI's work, as opposed to accepting the existing amalgamation of various CMS's, to promote consistency, leverage best practices for course development, share centralized support services, and establish a strong negotiating position with education technology vendors. While the California Community College system is the largest entity to propose the implementation of a common CMS, it is by no means the first. In the late 1990's and early 2000's a number of consortia came together to support online education efforts and chose to adopt a common CMS.

The purpose of this report is to curate and describe the primary lessons learned from other consortia that have evaluated similar decisions. The following sections take a closer look at several of these efforts, as well as others that did not consolidate on one platform, to learn from their experiences.

Methodology

Over the course of several weeks we conducted numerous interviews with representatives from higher education consortia that have experience implementing and operating a system-wide course management system (CMS).[1] We also spoke with a regional membership organization that has deep familiarity with the challenges and opportunities presented by education technology solutions in the higher education space.[2] Additional conversations were held with a provincial organization in Canada and two regional US consortia that provide a variety of online learning services to post-secondary institutions using more than one CMS.[3] In addition to exploring the reasons for and impact of adopting (or not) a common CMS, interviews also explored the extent to which support services for online learning were provided centrally.

The consortia that were interviewed ranged from strictly community college systems to systems that included community colleges, baccalaureate-granting institutions and graduate/research programs. Student populations ranged from 75,000 to over 450,000. Geographically, the study covered the Southeast, Mid-Atlantic, Northeast, Northern Midwest, Great Plains, Mountain West and Canada. These consortia have extensive experience that could benefit OEI, and several of the consortia have employed a common CMS for over 15 years.

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[1] The State University of New York (SUNY), Utah Education Network (UEN), Mississippi Virtual Community College (MSVCC), University of Wisconsin System, Virginia's Community Colleges and Colorado Community Colleges Online (CCCO)

[2] WICHE Cooperative for Education Technologies (WCET)

[3] BC Campus, Great Plains Interactive Distance Education Alliance (IDEA) and Connecticut Distance Learning Consortium (CTDLC)

BC CAMPUS
Students: 430,000
Institutions: 31 (25 public, 6 private)
Institutional Mix: 2YR, 4YR, Graduate
First CCMS Usage: N/A
Current CMS: D2L, Moodle

UTAH EDUCATION NETWORK (UEN)
Students: 170,770
Institutions: 8
Institutional Mix: 2YR, 4YR, Graduate
First CCMS Usage: Early 2000's
Current CMS: Canvas

COLORADO COMMUNITY COLLEGE ONLINE (CCCO)
Students: 151,000
Institutions: 13 in CO, 1 in MT
Institutional Mix: 2YR
First CCMS Usage: 1998
Current CMS: D2L

UNIVERSITY OF WISCONSIN SYSTEM
Students: 180,000
Institutions: 26
Institutional Mix: 2YR, 4YR, Graduate
First CCMS Usage: 2002
Current CMS: D2L

THE STATE UNIVERSITY OF NEW YORK (SUNY)
Students: 459,550
Institutions: 64
Institutional Mix: 2YR, 4YR, Graduate
First CCMS Usage: 1997
Current CMS: Blackboard

CONNECTICUT DISTANCE LEARNING CONSORTIUM (CTDLC)
Students: 76,318
Institutions: 50+*
Institutional Mix: 2YR, 4YR, Graduate
First CCMS Usage: 1998
Current CMS: Blackboard, Moodle
*Includes K12

VIRGINIA'S COMMUNITY COLLEGES
Students: 262,073
Institutions: 23
Institutional Mix: 2YR
First CCMS Usage: 2005
Current CMS: Blackboard

GREAT PLAINS INTERACTIVE DISTANCE EDUCATION ALLIANCE (IDEA)
Students: 544,510
Institutions: 20
Institutional Mix: 4YR, Graduate
First CCMS Usage: N/A
Current CMS: Blackboard, D2L, Canvas, Moodle

MISSISSIPPI VIRTUAL COMMUNITY COLLEGE (MSVCC)
Students: 73,000
Institutions: 15
Institutional Mix: 2YR + 1 4YR
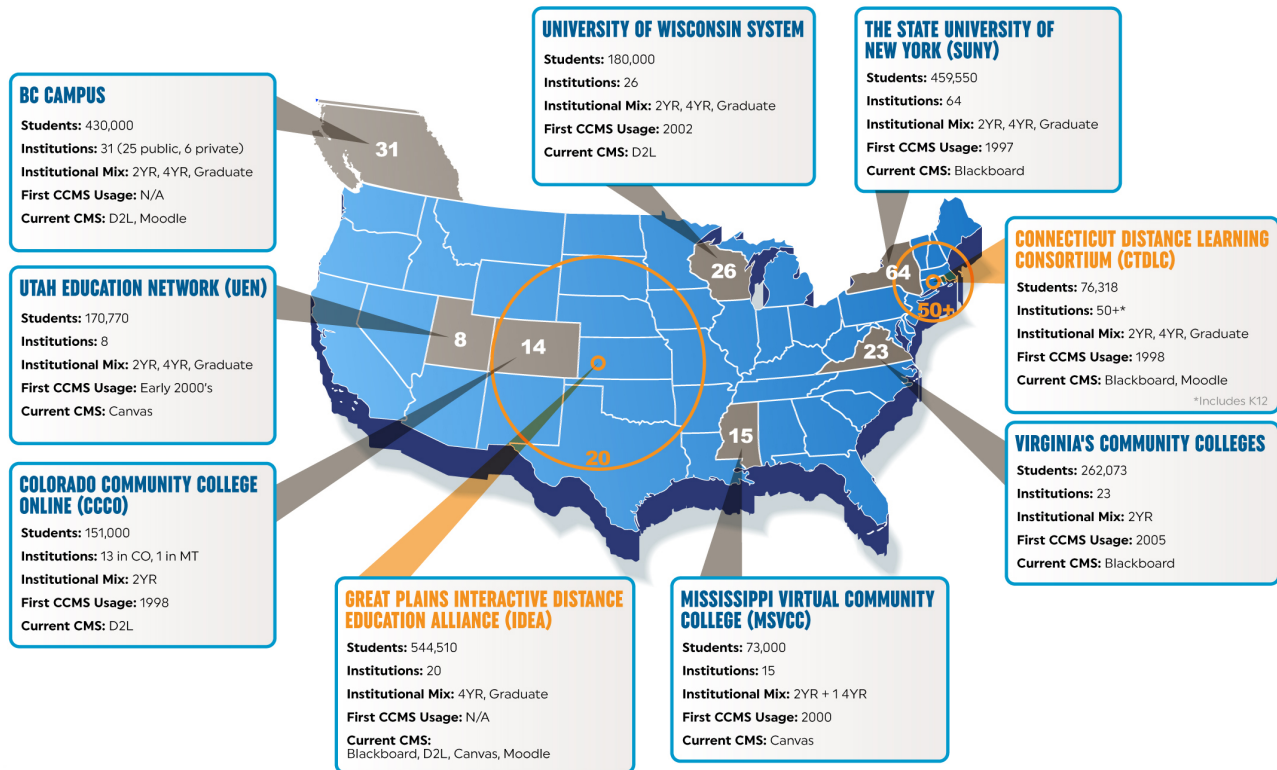**First CCMS Usage:** 2000
Current CMS: Canvas

Figure 1: Map of higher education consortia that were interviewed for this report (IDEA and CTDLC are regional, not state or provincial, consortia).

INITIAL REASONS FOR SELECTING A COMMON COURSE MANAGEMENT SYSTEM

Cost Savings and Efficiencies

There seem to be two primary motivators for adopting a common CMS among the consortia we spoke with: up-front cost savings and operational efficiencies. Cost savings were generally realized by leveraging the power of negotiating as a system to obtain more favorable terms with platform providers. As a larger organization, consortia found that they had considerably more negotiating power when it came time to sign contracts. Efficiencies came primarily from the centralization, at least partially, of support, training, and professional development resources for one common platform.

Equity

In some instances, adopting a common platform was also a way to ensure that all campuses, large and small, were able to have access to a CMS. In the early days of these learning platforms, most campuses were responsible for running their own systems and smaller campuses often did not have the resources to support such an endeavor.

Additional Considerations

For those consortia that adopted a common CMS in the early 2000's, access and pedagogical benefits were generally not a primary consideration. Over time, however, this situation has changed, and many consortia now recognize that their online programs increase access to some courses and programs that are either not offered at a local campus or are over-subscribed. In addition, these online programs have proven to increase access for the growing population of nontraditional students who are unable to attend courses on campus because of work/family conflicts or because they live far away. These consortia have also recognized pedagogical benefits provided that whoever is offering online programs needs to provide a deep and diverse ecosystem of support services to facilitate success. If these support services can be associated with a common CMS, the ecosystem is easier to establish and maintain. As the understanding of what is needed to ensure student success in the online environment has evolved, so has the

vision for what technologies are needed to support a successful distance education program.

CONSORTIA ESTABLISHED WITHOUT A COMMON CMS

For many of the consortia we spoke to, their establishment coincided with the implementation of a common CMS. Three noteworthy exceptions to this level of coordination are Colorado Community Colleges Online (CCCO), British Columbia's BC Campus and the Great Plains Interactive Distance Education Alliance (IDEA). A fourth example, the Connecticut Distance Learning Consortium (CTDLC), started with a common CMS in 1998 and within a couple years had migrated to multiple CMS's.

Colorado Community Colleges Online (CCCO)

When Colorado Community Colleges Online was established in the late 1990's, the primary motivation was to facilitate the delivery of online education across the state's 13 community colleges. The consortium was willing to work with whatever systems were in place at individual campuses to accomplish that goal. Approximately five years later the system office and consortium realized that multiple CMS's and their accompanying contracts were both hard to manage and a drain on resources. This realization eventually led to statewide legislation that mandated a common CMS for all online courses at the community college level. As with other consortia, cost savings was the driving force. It was also decided that it would be beneficial to support a centralized course creation entity that would develop courses that the system's colleges could opt to provide to their locally matriculated students.

BC Campus

In British Columbia, there is an organization called BC Campus that provides a variety of online learning support services across post-secondary public institutions and a handful of private colleges (for a fee) throughout the province. BC Campus provides services to approximately 31 institutions. The initial motivation for the creation of this entity in 2002 was to support the development and delivery of quality online educational programs. While the use of a common CMS is not a component of this effort, it is acknowledged that supporting multiple platforms has become a drain on system-level resources. While practical considerations provide an incentive to promote the use of common platforms in many areas, there is resistance primarily from faculty to the use of a common CMS as an

intrusion into local autonomy and interference with academic freedom. As one person at BC Campus put it, "we don't have the luxury of a common LMS."

Great Plains Interactive Distance Education Alliance (IDEA)

The Great Plains Interactive Distance Education Alliance (IDEA) started as a consortium of primarily land-grant institutions in the Great Plains region and has now expanded geographically to include 20 higher education institutions. IDEA administers mostly graduate degree programs in human and agricultural sciences that draw on courses from member institutions. Since its inception the programs have run on multiple CMS's, basically offering each course in the CMS of the institution that developed the course. This means that if a degree program is composed of courses from three different universities with three different CMS's, student will move across three different CMS's during their course of study. From the perspective of this consortium, their graduate (and some undergraduate) students are able to navigate multiple CMS's with a short learning curve when exposed to a new one. Furthermore, the flat and dispersed nature of the consortium necessitates flexibility as far as the CMS is concerned. The common view at this consortium is that expecting students to adapt to different learning environments is more advantageous than attempting to impose a common CMS across its diverse membership.

Connecticut Distance Learning Consortium (CTDLC)

When the Connecticut Distance Learning Consortium (CTDLC) came together in 1998, they went with one CMS and provided a robust suite of course production services to member institutions. As developing online courses became easier, institutions wanted more control over course production and CTDLC decided to offer a choice of two CMS's in the early 2000's. The strategy of offering two distinct CMS's continues and from CTDLC's perspective, while it is a challenge to support two CMS's, it gives their members options and gives CTDLC leverage with CMS vendors.

REALIZED BENEFITS OF A COMMON PLATFORM

The anticipated benefits of cost savings and operational efficiencies were realized across the board for the consortia that adopted a common CMS, and anticipated equity benefits have been realized across institutions large and small. In addition to these anticipated benefits largely driven by resource constraints, there were other realized benefits as well in the areas of course development, professional development, student/faculty experience, and preservation of local autonomy and decision-making.

Cost Savings Still a Driver

As budgets have either remained tight or even been reduced across the broader higher education landscape, cost savings continue to be a commonly-understood benefit of selecting a common CMS. Interestingly, limited resources have also driven a broader acceptance of the value of a common platform. As one interviewee put it, "Financial pressures, cuts that the university has endured have made a common, more affordable LMS more appealing. If money were no object, people might want to do things differently. The current financial environment leads to continued support."

In addition to lower prices on the common CMS that consortia are able to negotiate, some consortia have adopted negotiating tactics that enable them to save money in other areas while providing better services. One consortium now negotiates deals with third-party application vendors that member institutions can choose to adopt at pre-agreed terms based on local campus needs. Likewise, member institutions are able to negotiate deals wherein the contract makes clear that other member institutions can jump on the same terms if and when they're ready. Another approach has been for the consortium leadership to select and establish contracts for several solutions for complementary technologies such as video captioning or online proctoring, and let member institutions choose which solution best suits their needs. While these approaches are well-known in the larger world of procurement, they would not be possible without the existence of a consortium or other unifying entity and all are further facilitated by a common CMS.

Course Development and Professional Development

The use of a common CMS can also lead to benefits with respect to course development efforts and the ultimate quality of online courses. The centralization of support services and associated cost savings have increased the presence of instructional design resources at several consortia. These resources can be deployed to assist in course development at both a central and local level. Best practices are developed over time and implemented at scale. While some of these benefits could be realized by a system using multiple CMS's, the existence of a common platform simplifies and streamlines the efforts of instructional designers and course developers.

Likewise, for professional development, the existence of a common CMS makes professional development efforts more targeted (i.e. a centralized focus on one CMS and selected supporting technologies) and scalable. As one interviewee put it, they "didn't want every college to recreate the wheel." For clarification, professional development focuses more on techniques and strategies for successful online teaching, which can vary somewhat across platforms, whereas instructional design focuses on pedagogical approach and course structure.

Student/Faculty Experience

At one consortium, an emphasis on student experience and implementing best practices to benefit the student was a focus at its inception. As one example, this consortium pursued the creation of master course shells for certain subjects, which they thought would be a good way to leverage best practices in course development on a larger scale. The original intent had been to develop model courses that could be adapted for use across the entire system. While that didn't happen, largely due to the politics of local autonomy, issues of academic freedom, and disagreements over pedagogical value, model courses have been developed locally and are used within some of the institutions where they were developed.

In consortia where students might be taking courses at other institutions and faculty might be teaching at multiple campuses, it has proved valuable to have a common CMS. There is a certain continuity of experience as there is no need to learn how to navigate a new platform. That being said, "the goal of a unified experience is not air tight," as one of

the interviewees commented. "A common system does not equate to the system being used the same way. There is still local autonomy at many levels and many different approaches to course development and delivery." While all colleges in a system may be using the CMS, the local implementations can vary considerably, from the options available for use in the system to the variety of add-on services made available.

Another benefit that accrues to students and faculty is the availability of enhanced support services and access to third party teaching and learning tools that otherwise might not be affordable. Based on comments from several consortia, this availability and access is often a direct result of cost savings realized by coming together to implement a common CMS and the ability to negotiate better deals across the board. Examples include plagiarism detection software and online tutoring services.

Flexibility for Local Institutions

Finally, and somewhat counter-intuitively, the use of a common CMS in many ways has led to more flexibility for individual institutions. Institutions generally have access to a wider range of tools that can be used to enhance the online learning experience, as well as centrally-provided training to support their use.

Furthermore, being on the same CMS need not be, in and of itself, a constraint. The platforms are often customizable and there is usually flexibility to define a pedagogical approach within the chosen CMS. In addition, the broader use of a CMS within the larger context of a system allows for the exchange of information regarding effective practices of that system, potentially providing users with resources to address their needs that would not be available within a single institution.

DRAWBACKS OF A COMMON PLATFORM

While none of those interviewed expressed an interest in going back to multiple CMS's, and one group that does have multiple platforms dreams about being on a common platform, there are some drawbacks to consider when implementing a common CMS.

If There's a Problem…

First and foremost, if a system-wide problem does develop, everyone is affected. As one interviewee assessed the risk of a common platform, "when it goes well, it's a really good solution…but if you don't choose well, when things go wrong, there's a lot of risk on a big scale."

Squeaky Wheels

Another drawback is that being on one common platform may not allow the system to take advantage of the relative architectural or pedagogical strengths of different platforms. Some consortia handle this by permitting exceptions for certain programs or grandfathering in others if there are compelling reasons for using a different CMS (or if it's simply not worth the political capital to fight it). One consortium brought up the example of several campuses with passionate faculty who were committed to the use of an open source CMS, dedicated to both the concept of employing a tool that is open source and taking advantage of the customizability of that platform to achieve pedagogical goals.

Excess Capacity

One interviewee pointed out that on occasion the consortium adopted system-wide tools that were not widely implemented. This, in essence, meant that they were over-paying for tools that were seeing only limited use. Ideally, working as a system should ensure a robust vetting process that includes some estimation of the extent to which a tool would be employed so as to prevent unjustified investments.

Not a Panacea

Finally, and perhaps most holistically, one interviewee said that "the biggest disadvantage is perspective. A common system doesn't solve all problems…a common system is not a guarantee of same usage. It makes it harder to share content if things are set up differently. It's not the approach but usage and how things play out on different campuses."

CHALLENGES FOR IMPLEMENTING CROSS-COLLEGE ONLINE PROGRAMS

One rationale for introducing a common CMS may be to facilitate student movement between institutions. While one consortium early on opted to accommodate multiple CMS's into a robust system of cross-college enrollment, it is generally presumed students are better served when they are able to focus on mastering course material, as opposed to a new CMS. As institutions, systems, or consortia realize the benefits of students being able to access online courses at campuses other than their own, discussions about implementing a common CMS are likely. Given their interdependence, we should highlight some of the key challenges when the common CMS is used to enable cross-college online initiatives.

Even for those consortia who maintain that the local campuses are generally meeting the academic needs of their students, there is a recognition that occasionally students might benefit from access to a course offered elsewhere. Despite this recognition, the implementation and operationalization of cross-college access has been fraught with several challenges. While it may benefit students to have access to courses at other institutions, efforts to facilitate cross-institution enrollment are not commonly made. Articulation agreements, the establishment of a financial aid consortium, and mechanisms for the exchange of student data are common barriers to such efforts.

Cultural and Operational Barriers

Some of the consortia that participated in this research project identified several factors that were conspiring to block efforts at opening up cross-college access to online courses. Among the big challenges they cited were academic culture, operational issues and in some cases the lack of a perceived need. One large statewide consortium had the following observation on cross-college offerings, "It's minimal at best today…it is a huge priority to address. There is only a small subset of campuses participating. Nowhere near where, from a system office perspective, it should be. We're currently working on a number of ways to enhance cross-college registrations."

Different Approaches

Given the sometimes challenging nature of cross-college access, consortia have adopted solutions to fit their distinct context. One statewide consortium operates a central clearing house for online degree programs offered by individual campuses or occasionally groupings of campuses throughout the state. They also offer centralized online degree programs, one for AA degrees, another leveraging competency-based education that targets non-traditional students.

One statewide community college system formed a statewide "virtual college" to support online courses and programs at the different campuses. The "virtual college" is not a degree granting institution, but rather a facilitator of online learning at the different institutions across the state. Of the 30,000 students enrolled in online courses, about 3,000 are cross-over students, taking courses offered through other campuses. In this scenario, the host institution "owns" the student, provides all support services, and transcripts the course.

In another statewide community college system, the team that supports the common CMS also has a team of instructional designers and subject matter experts that develop courses. These courses are available to students across the system but are administered by local institutions. The online courses that are centrally developed and provided are certified by a nationally recognized third party quality assurance organization and member institutions have complete access to the course to vet it before agreeing to offer it to their students. Furthermore, the online course start dates are staggered with the brick and mortar term starts to minimize competition.

RECOMMENDATIONS TO THOSE CONSIDERING A COMMON CMS

Given the years of accumulated experience across the consortia that participated in this research, it is not surprising that a number of recommendations were put forward for those considering a common CMS. The recommendations run the gamut from building inter-organizational bridges to system-wide governance to course design to support.

Bridge Gap Between IT and Ed Tech Teams

One common theme was the importance of bridging the gap between the information technology (IT) teams and the education technology teams. As one interviewee put it, "The CIO (chief information officer) side of the house and the eLearning side of the house need to work together." When kept in the loop, CIO's can become allies and advocates with vendors, legislators and stakeholders. The CIO's office often has responsibility for contracting and managing complementary systems and the more they know about the eLearning systems, the better positioned they are to choose systems that work well together. One example cited was the choice of a student information system, which has critical integration points with a CMS.

Don't Let Technology Drive the Bus

Interestingly, one consortium that was driven by the IT team in their migration to a common CMS now understands that they could have reached out to the academic stakeholders earlier in the process. They had been so caught up with the technology concept itself that staff forgot to think about the needs of those people who would actually be using the technology. This consortium has long since modified its direction but feels like there was a missed opportunity to prevent a political stand-off by failing to reach out sooner. Clearly, buy-in from end-users is critical for the success of a common CMS as well as any supporting technologies.

Establish Consortium-Wide Committees

On the governance front, one consortium talked about the importance of setting up consortium-wide advisory groups to keep everyone informed, to solicit input, and to

increase organizational buy-in. From their perspective committees should be broken down by functional areas such as information technology, business, eLearning, etc.

Go with Vendor Support (Leverage Relative Strengths)

On an operational level, one large consortium that runs a common CMS was very enthusiastic about going with vendor contracted 24/7 support. This decision has freed up internal resources to focus on instructional design and other higher level concerns while making sure that users can get support whenever they need it. In addition to a high level of satisfaction with support, this arrangement has provided insights into issue escalation procedures and real-time bug fixing efforts they would not otherwise have had. This highlights the importance of taking a holistic view of the CMS, considering not only its function but the support services provided.

View as Opportunity to Focus on Effective Pedagogy

An interesting piece of advice one consortium always gives to other systems considering a migration to a common CMS is to take advantage of the opportunity to redesign most or all courses. As they put it, "leave all the junk behind and start over…get away from doing things the same old way."

In the end, the real opportunity when implementing a common CMS paradoxically is to remove the focus from the CMS itself and to enable greater focus on improvements in teaching practices – better course design, better support for faculty and students, and more engaging use of technology to engage students and improve learning.

Initial Motivations

- Cost savings
- Negotiating power
- Operational efficiences
- Centralization of shared services (support, professional development & instructional design)
- Equity across large and small institutions

Additional Realized Benefits

- Increased collaboration across system
- Sharing of best practices vis a vis course development
- Improved student/faculty online experience
- Access to wider range of ed tech tools
- Retention of flexibility for local institutions
- Greater access to courses and programs

Downsides

- If there is a problem with the platform it affects everyone
- Reduced ability to leverage strengths of multiple CMS's
- Excess capacity, i.e. some tools adopted system wide but not seeing widespread use

Challenges

- Operationalizing cross-campus enrollments
- Overcoming bureaucratic hurdles
- System wide communication
- Balancing central concerns with local needs

Recommendations

- Bridge potential gap between Information Technology (IT) and Education Technology teams
- Stay close to the needs of students and teachers; don't let technology drive the bus
- Set up consortia-wide committees to facilitate communication and buy-in
- Go with 24/7 vendor support if at all possible (leverage relative strengths)
- Take advantage of migration to CCMS to rebuild courses, there will never be a better opportunity
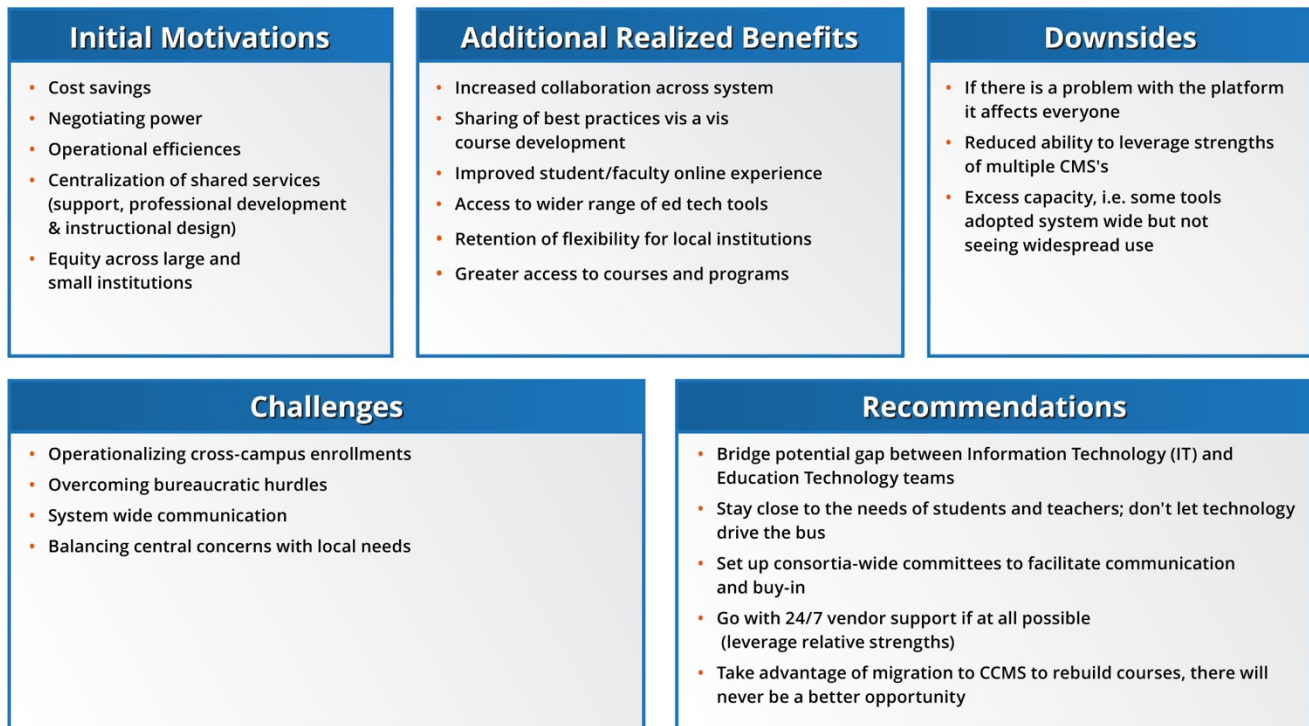
Figure 2: Distillation of key takeaways from higher education consortia that have pursued the implementation of a common course management system (CMS).