Indiana Public Broadcasting
Innovating in the Storm of the Times

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INTRODUCTION

The internet and related technologies are developing rapidly and upsetting the traditional media environment. Consumers now look to supplement information from traditional broadcast delivery methods with an option that provides greater choice, flexibility and new media. While consumers are not abandoning the traditional broadcast methods, adopting additional delivery methods through the use of technology provides an opportunity to strengthen your offerings and appeal to additional audiences. The current environment challenges established content providers to adapt quickly in order to maintain their position in the information marketplace.

This report provides insight into the challenges facing Indiana's Public Broadcasters and recommends strategies to utilize information technology to support the core mission of IPBS and prepare for the future.

ORGANIZATION OVERVIEW

The Indiana Public Broadcasting Stations (IPBS) is a consortium of Indiana's eight Public Broadcast Service (PBS) stations and eight National Public Radio (NPR) stations whose collective mission is to provide engaging, educational, and informative programming to Indiana citizens. As a central resource to the individual member stations, IPBS encourages collaboration, community building, and collective activities. The core focus of IPBS and its member stations is to serve the citizens of Indiana, provide excellent public service media, and create a sense of statewide community.

EXECUTIVE SUMMARY

This report was commissioned to answer the central question, "*How do Indiana's public media outlets strategically position themselves to best leverage information technology platforms to successfully establish and implement a 'third arm' of content delivery?*"

To answer this question, IHETS electronically distributed surveys targeting audience and staff for each station, concurrent with in-person focus groups of senior staff and front line employees. From the derived data we determined that the audience has an implicit trust in the quality of public media content. However, the demographics are largely skewed toward a highly educated, 55+ year old market segment. This segment is largely satisfied with available streams of content. On the other hand, the 45-55 year old, highly educated demographic indicated a desire for interactivity, varied consumption formats, and the ability to view programming on one's own time. These concerns become more prevalent as age decreases.

Using the information attained from the data to drive IHETS' research, we explored the use of information technology to establish a content delivery platform that also enhances station function and helps facilitate inter-station communication and collaboration.

From there, IHETS developed a detailed "roadmap" that categorizes the short-range, mid-range, and long-range solutions from the recommendations section. This road map of critical items and approximate costs is a guideline to implementing solutions suggested by IHETS in response to our findings. Platform solutions and industry standards are also included in this roadmap:

Short-Range

- Initial Web site and content development
- Central collaboration resource
- Consolidation and analysis

Mid-Range

- Coordination and content creation
- Additional application development

Long-Range

- Station IT infrastructure upgrades
- Share project, cost, and management tools
- Advanced collaboration technologies

The recommendations provided below our detailed cost options chart and project roadmap evaluate additional delivery methods and revenue generators at every step of the process. An investigation into new media is also provided to outline core options as well as advanced integration, interaction, and personalization.

It is possible to view the short, mid, and long range suggestions as potential "phases" for implementation. For budgetary and planning purposes, each phase can be executed individually.

The recommendations are summarized below under their respective categories:

Consolidation and Collaboration

- Reduce complexity and variance between back office systems (outsourcing many back-office functions may provide cost savings of up to 30%)
- Identify systems that support business processes and move common information across stations
- Create an internal-facing collaboration platform to allow communication and collaborative work among stations despite physical distance
- Utilize social media features of a collaboration platform to enhance workflow, increase efficiency, and reduce role redundancy across stations
- Form the backbone for enhanced content offerings through a centralized hosted content web platform

Operations

- Consolidate roles to avoid stretching current employees too thin
- Create a central pool of contracted and freelance employees to reduce travel and labor expenses
- Create shared management and budgeting tools to help identify problem areas
- Leverage buying power by pooling purchases for commonly needed items

Programming/Content Sharing

- Create a common media distribution platform and content repository
- Develop IPBS into a central channel for statewide content
- Transparently share content through common video and audio playback mechanisms
- Convert existing content into web-enabled formats

New Media

- Develop a focused news presence around topics of local interest in addition to statewide news
- Integrate the content platforms and distribution media provided by national NPR and PBS organizations
- Create multiple content consumption platforms and vehicles to serve different consumer preferences
- Create interactivity around content to enable filtering for information of interest by consumers
- Satisfy consumer desire for additional information around the topic presented
- Allow for ability to pull select content and information (i.e. relevant video clip) rather than watch an entire show

New Revenue Opportunities

- Work with partners to create integrated advertising and unobtrusive underwriting placement around core content
- Coordinate markets and content distribution media to attract additional corporate sponsorships
- Create a simplified donation framework that allows consumers to target a recipient
- Borrow social entrepreneurship concepts to maximize donation potential
- Partner with local businesses to add regional components to underwriting initiatives and foster stewardship among community institutions

Each section contains a number of suggestions that answer the fundamental question of how to attain a third arm of broadcast as well as achieve greater cost efficiency, reduce redundant activity, and create a robust collaboration system for the staff of IPBS member stations.

Lastly, a listing of Web sites that have implemented one or many of the identified suggestions from the recommendations section is provided.

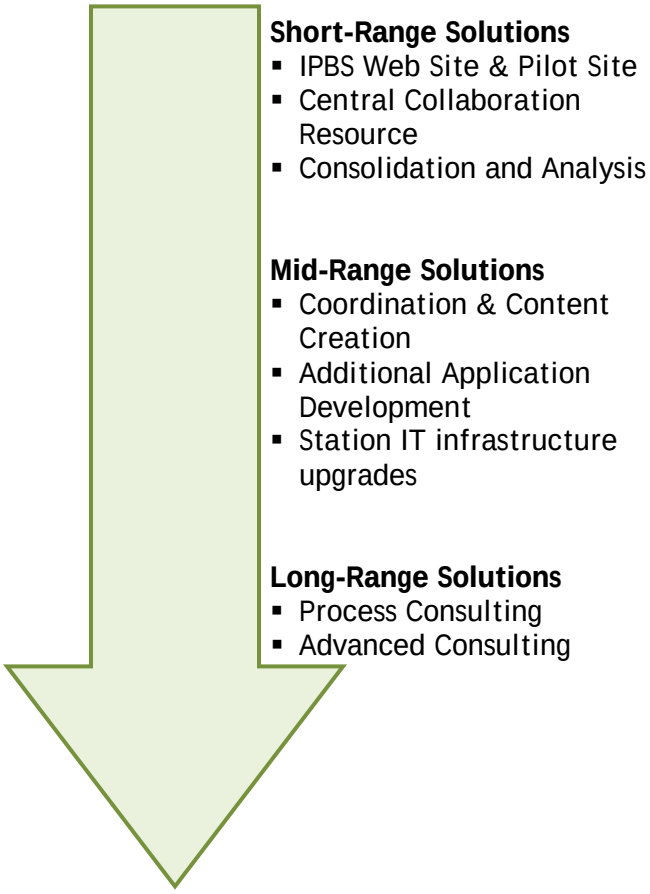
Project Road Map

Road Map

The following section lays out an action list with specific points where the necessary components listed above can be explained in further detail.

Specific components of each phase are explained in further detail within the report in their respective sections. The individual sections also indicate costs for the various facets necessary to effectively implement the strategy.

Simultaneous pursuit of specific phases based on fundamental and developing needs may be advantageous.



Each solution outlined in the following narrative is linked with information on cost based on the approximate market price and what IHETS might charge for a given component. This report starts with the most pressing pieces of infrastructure required to make the overall vision a reality and then works toward long-term items.

SHORT-RANGE SOLUTIONS

Initial Web site Content Infrastructure Development and Pilot sites	***Initial Phase***
Provision and creation of initial Web site content management infrastructure including: ▪ Integration tools with PBS and NPR national site Identify one station Web site and the IPBS central Web site as pilots to work through this process: ▪ Enables the initial team to work through hands-on scenarios and real feedback without scope becoming a challenge	**Pilot & Central Site** $14,300.00 (one-time) $1,800.00 (annual) **Additional Site** $4,125.00 (one-time) $900.00 (annual)
IHETS strongly recommends making this a starting point. **The one-time cost** estimates provided take into consideration hiring a partner. This partner would manage the creation of the content management framework, design templates for both sites, implement the template, and create supporting graphics for various elements of the site. Access to stock graphics from station and IPBS inventory is an effective way to control costs. This contracted partner should work closely with stakeholders at stations and IPBS throughout the project, providing training on the use of the system at the completion of the project. **The estimated annual fee** includes advanced Web site hosting to support the content management platform for two sites, flash video on-demand (for about 20GBytes of content and some acceleration technologies to provide efficiencies), and scaling to the site during peak traffic times. Locking in a rate at the beginning of the project is recommended to provide for ideas uncovered during the process. It is beneficial to work with a partner willing to collaborate with the pilot site(s) and later production implementation processes. IHETS strongly recommends that the content management platform be built upon one of the open source content management frameworks. This aligns well with the overall philosophy of public broadcasting, controls cost, and creates long-lasting investment protection through the availability of source-code. (continued next page)	**Further Development** $55/hr

We caution that main-stream products rather than eccentric niche solutions deliver the mentioned benefits and strongly recommend against any niche solutions that carry high risk.

Central Collaboration Resource	***Initial Phase***
Implementation of a central collaboration resource ▪ Facilitates modern collaboration between stations ▪ Usually accomplished by the use of a system such as Microsoft Office SharePoint Server, Alfresco, or Drupal	**SaaS Costs** $7,200.00 (annual) **Additional Storage** $240.00/50GB (annual)
This service can serve as a catalyst to encourage collaboration. A certain amount of cultural shift will be required to receive the ultimate benefit from this technology. Encouraging staff to brainstorm around ideas of how to further leverage the technology should provide an attractive avenue to ease adoption and develop fresh ideas for use. Microsoft Office SharePoint Server is considered the gold standard in this field, but IHETS does not see any compelling functionality to incur the additional costs this solution presents. Utilizing an open source solution that offers the same functionality, but enables additional functionality and expandability beyond the standard features is recommended. **The pricing estimate** provided above is for a Software-as-a-Service (SaaS) solution utilizing the Alfresco platform including 50GB of storage. **Estimated costs** for additional storage as utilization grows are indicated. It is important to keep an eye on the software solution's capabilities in sharing and collaborating on content beyond the "standard" content such as documents to video content, and other more advanced files that are germane to the public broadcast environment. While some of the functionality may not be initially relevant, the ability to utilize the functionality as it becomes appropriate and possible without additional costs or conversion to a new platform is strongly desirable.	

Consolidation and Reflection	***Initial Phase***
Evaluation of best practices regarding Information Technology by individual stations ▪ To refocus efforts on the Web site as a content delivery platform	**Saas E-mail w/ Google or other Provider** $0-1,000.00 (annual) **Hosted Microsoft Exchange** $6-8,000.00 (annual)
E-mail is a pivotal example of a back office service that can be outsourced to reduce overhead and increase reliability. Changing to enterprise e-mail from Google or another large provider that has a free option for non-profits is probably the most attractive option currently available from a cost perspective as most PBS and NPR stations are 501(c)(3) non-profit corporations. E-mail services are provided free of charge for non-profit corporations who produce the relevant documentation listing themselves as 501(c)(3), and is hosted and maintained by the respective provider. Major universities like Indiana University and Purdue University have either successfully made the migration, or are in the process of doing so. These e-mail solutions integrate with most popular e-mail client software, do not require enterprise-level management aside from user management and common settings, and their reliability is extremely high. If member stations feel that they need an e-mail solution that retains access to the physical infrastructure options are available. These options include advantages such as tighter application integration, but tend to be comparatively expensive. It is possible to find cost savings and improved focus on core mission by identifying best fit for many other information technology functions. Given the differences in current infrastructure, architecture, and technology resources, additional consulting would likely be required to discover many of these on a per-station basis.	

MID-RANGE SOLUTIONS

Coordination & Content Creation	***Initial Phase***
Coordinate and manage content influx from central and client sites ▪ Will need to be done after platforms are constructed	**Salaried Employee** Variable
Assigning a coordinator with experience in Web site content delivery, project management, and media operations is vital to the effective management and creation of centralized Web content.	

Additional Application Development	***Continuing Development***
Additional Web site and mobile applications ▪ Enhance initial offerings ▪ Add a significant degree of diversification	**Consulting & Development** $55/hr
Increasing the number of delivery platforms provides maximum accessibility. Continuing to provide rich functionality will require additional applications for the Web site and other platforms to be developed. Mobile applications, games, and other value-adding, content-driving mediums should be identified and defined by specific functionality. They should then be deployed and maintained through update cycles. All of this can provide a significant revenue stream and/or cost savings/efficiency tool, depending on the purpose of the application. Many of these applications can also form the basis for delivering content.	

Station IT Infrastructure Upgrades	***Initial Phase***
Improve the internal IT infrastructure of stations ▪ Target internal information flow and enable smooth data exchange ▪ Empower stations to utilize information technology effectively in everyday operations Evaluating and updating current infrastructure used in internal communication efforts is particularly important as each station has significant investment in content delivery platforms already. Many of these individual systems will begin to transition to network systems. A comprehensive analysis of current infrastructure, development of a replacement schedule (including budget impact), procurement and installation of current equipment with a focus on streamlined and optimized infrastructure should take place. Contracting with an outside partner to maintain and manage IT infrastructure will allow station personnel to focus on their core mission.	**Consulting, Design, Deployment** $16,000.00-$100,000.00 (one-time) **Ongoing Management** $2,000.00-$15,000.00 (annual)

LONG-RANGE SOLUTIONS

Shared Project, Cost, and Management Tools	***Initial Phase***
Develop tactical and strategic project and budget management tools ▪ To best reap investments in new technology ▪ To Track time usage and plan for future investments ▪ Individualize for stations collaborating on Web site content projects Building tools with the strengths and goals of public media and non-profits in mind and consulting with subject-matter experts will help mold best practices and highly adaptable and intuitive tools for stations to use. (continued next page)	**Consulting** $75-150.00 / hr **Total Project Estimate** $5-10,000.00

External consultants who have a depth of experience in large-scale strategy, financial, and project management can provide surprisingly simple tools, and then train staff in their use.

Widespread usage will display strengths and weaknesses of individual contributing stations, and allow participating members to leverage their strengths through collaboration.

Budget and performance information can be funneled transparently to management and external stakeholders. This supports the use of a targeted donation system.

Advanced Collaboration	***Second Phase***
Explore further uses of a collaboration platform for station staff ▪ Reduces the need for face-to-face meetings ▪ Provides rich, real-time communication abilities	**Web site Conferencing / Collaboration** Variable
A variety of Web site conferencing solutions are available including real-time collaboration suites like Cisco/WebEx, Google Wave, or Adobe Acrobat Connect. Niche players like Dimdim and video conferencing setups are also available. Telepresence is another practical solution. This technology allows the user to create virtual meeting and board rooms and allows for large scale, real time collaboration between teams.	

Content Provider Network	***Ongoing***
Create a reliable network of content providers ▪ Feeds fresh, relevant content to the Web site ▪ Enhances content quality	
Supporting the constant flow of content to the Internet as a media platform requires significant skill in content creation.	

(continued next page)

IHETS suggests that the stations work together centrally to support these content maintenance activities. Combining skill sets of staff and strategic partners circumvents the need to develop and support the necessary skills on an individual station basis.

This method allows IPBS members to best utilize offerings from national public broadcast bodies and remain proactive in engaging their audience with new media.

Observations From Data

Situational Analysis

The information in this snapshot is a combination of focus group meetings, surveys, and conversations with station managers, station staff, listeners/viewers, and non-listeners/viewers. The aggregated data makes it apparent that there is a tremendous amount of opportunity for IPBS and individual stations.

A consistent theme is the consumer perception of trust and authenticity in the content provided by the IPBS stations. Few content providers are able to enjoy the same amount of positive feedback regarding integrity and strength in their programming as IPBS stations. In a world where content is considered key, this should be seen as a central opportunity for IPBS.

Feedback indicated that while presentation format and access to content could use significant improvement, the quality of the content makes it worth seeking out. Concerns over presentation of content and accessibility slants towards the younger portion of the current demographic, specifically, those in the 45-55 year old age group. While there are outliers within all age groups the younger demographic, those in college and recent graduates, overwhelmingly indicated a desire for easier, more flexible, internet-based access for content.

IHETS research revealed that IPBS audiences over 55 years old remain satisfied with the mode of consumption and offerings provided by the stations. Conversely, audiences under 55 have different preferences. While radio and TV do not disappear from the horizon, their impact becomes diminished in the consumer's eye over new media technologies. Challenges to the delivery of IPBS' content include busy lifestyles and an increasingly on-demand world where the consumer can choose what, when, and how to consume.

Solving issues regarding accessibility involves more than putting information on a Web site. It is clear that the younger generation, particularly college students and recent graduates, demand greater quantities of information, more interactivity, and the ability to participate and contribute to the conversation. Learning and interest among this demographic is triggered and sustained through participation rather than one-directional consumption of information.

By virtue of its interactivity, this demographic often questions beyond what is immediately presented and researches more in order to analyze input from multiple sources before coming to a conclusion or accepting an idea.

Recommendations

-Consolidation and Collaboration

-Operations

-Programming/Content Sharing

-New Media

-Revenue Opportunities

Consolidation and Collaboration

While visiting individual stations and analyzing their operations it became apparent that human capital is a major challenge experienced by nearly all stations. For this reason, a serious look should be given to approaches for consolidation and/or collaboration around mutually beneficial items. While this may not be immediately easy to achieve, the savings in human resources and operational costs can be reapplied to implement the long-range solutions suggested in our recommendations.

Many of the information technology related functions are currently performed by IPBS staff members as a second or third role, similar to several new media situations. In many cases, staff members are stretched and extended to perform tasks that do not fundamentally contribute to the core mission and value of IPBS. There are a number of opportunities to decrease this overhead and allow individuals in stations to return to tasks that add value to the user.

There is significant uniqueness in both the character and operational approaches of individual IPBS stations and we acknowledge that this is not a "one size fits all" scenario. For this reason, we suggest an "a la carte" system of collaboration opportunities from which stations can choose the most appropriate services. Items for consideration include:

- Collaborating on new or existing supply agreements to decrease the cost of standard platforms and/or specialized supplies
- Working with a central technology partner to achieve greater cost efficiencies
- Utilizing a centralized approach toward information technology staff

The IPBS consortium as a whole is in a better position to negotiate favorably due to the size of its collective buying power over that of individual stations (particularly those not affiliated with a university).

Given IHETS' expertise, we highlight the following collaborative technology opportunities for consideration:

Sourcing Solutions to Consolidate Technology

The most obvious targets are the systems that power everyday 'back office' functions. For example, many of the stations run their own e-mail systems. Moving toward a free or low cost hosted enterprise e-mail solution will deliver service that is generally superior to locally hosted e-mail and reduces cost and internal complexity. Non-profits, such as public broadcasters, have a number of low and no cost e-mail options available.

Hosted e-mail is only one small example of a technology sourcing solution. IHETS is confident that a more thorough analysis will reveal a number of similar services strategically appropriate for outsourcing or consolidation options. The correct

operational moves can reduce labor, add significant value, and improve communication between stations and departments.

Collaboration Software

The use of collaboration software packages such as Microsoft's SharePoint provides the ability to share files back and forth, work together on documents, co-write news stories, and work together regardless of physical location. A story with statewide impact can be co-written and edited by the staff of multiple stations and then quickly published to the Web sites of appropriate stations. A central collaboration platform avoids the extra steps taken to manually update documents and provides significant time and cost savings.

Central repositories are useful as a space for graphics to be categorized, catalogued, and stored. Many files can be re-used or modified to add value, save time, and provide graphic designers with further resources.

Collaboration software is either quite expensive and/or requires significant expertise from technology staff to initiate and manage effectively. A centralized, outsourced, and hosted option avoids these downfalls yet simplifies the complexity and communication necessary to share news story displays, news feeds, video content, and secure files.

Centralized Web Content Management

A central presence on the Web site for IPBS allows stations to take advantage of the synergy already in existence with their technology operations. A portion of the central site can be designated as an intranet for IPBS member stations to share without making all materials available to the public-facing portion of the Web site. Such a resource could include a social platform and communication forum for employees of member stations to interact and share ideas, as well as work together on projects.

Social Media Tools

A number of collaboration packages integrate with, or inherently have, internal-facing social tools. There are a number of efforts underway to replicate the networking features of products like Facebook for use in the workplace. The ability to know what others are working on, what teams they belong to, and the ability to access team workspaces are features currently available on social media sites with appeal to an office environment.

For example, a social web component can greatly enhance interaction between underwriter account executives. Shared work on sales strategies and reports on how to approach statewide companies can benefit all stations. Status updates that indicate tasks already in progress can help avoid redundancy. This amount of communication is difficult and time consuming to achieve through meetings and teleconferences. An internally facing platform allows communication to occur in mere moments.

Enhanced Web Offerings

Running a streaming platform from a hosted environment and linking them locally can help alleviate bandwidth issues that may exist for stations considering rich media content on their Web site. In times of emergency, a centralized resource creates a backup for local content and keeps media information flowing directly to consumers.

The creation of a content distribution network that actively pulls content can eliminate most or all of the labor required to keep the central repository up to date. It also creates a useful archive of content which can be used to develop compelling on-demand Web site programming.

The public-facing Web sites themselves hold the most potential for leveraging shared resources. A centralized, template-based content management system can create a unified look and feel, while at the same time leaving flexibility to convey each station's brand identity. Functionality is built into the program to allow for color schemes and varying fonts by station and by template to create a uniform look without the hassle of individual coordination.

Content management systems simplify the process of publishing articles to the Web site from common word processing software. They also enable authors to embed rich media content effortlessly into the body of the article. Quality outsourcing providers deliver additional features such as increased bandwidth, content distribution expertise, and hosting facilities that operate all day, every day. IHETS' research indicates potential infrastructure cost savings of more than 30% per station through outsourcing and/or centralization. These savings can be repurposed to drive long-range initiatives.

Operations

In addition to the platform realignment proposal there are also a number of operational factors to consider in developing a new strategy to effectively leverage the Web site.

Consolidated Roles and Talent Pool

Individual stations stretch their staff to perform tasks that one, central source can assign contracted employees to accomplish. Utilizing a pool of talent for certain universal tasks can eliminate redundancy. Many of these roles do not require on-site staff and the industry trend is to either pool these vital resources in one location or utilize an outsourced partner to collaborate through technology.

In situations where hiring additional staff is not an option, a centralized talent pool allows stations access to dependable contractors. Potential outside contractors include graphic designers, rich media content developers, and support content writers.

Additional benefits to shared resources include reduced travel costs and labor needs. Every PBS station has resources devoted to the primary functions of television production, e.g. grips, camera operators, etc. Currently, station personnel are hired in the home area and often sent to different locations for shooting. This entitles them to a day pay rate rather than an hourly rate. A shared list of contacts and rate schedules can be created, continually refreshed, and distributed through the collaboration software. In this way, contracted employees can also benefit from increased work opportunities and long-term relationships for "preferred" resources and a decreased need for IPBS stations to go outside their current talent pool.

Project and Budget Management

Cost savings as well as project and budget management can be enhanced through inter-station and inter-departmental collaboration. Designing a number of simple tools can allow stations to better track project time and costs. Combining these tools with secure, inward-facing collaboration platforms creates further accountability for managers.

A centralized, secure repository for information can bring surprising insights to past projects. For example, projects consistently over budget or struggling to raise funds may require greater exposure to resources or changes in marketing strategy. This can eliminate the need for multiple meetings while better allocating time and funds and increasing transparency. Station leadership can use this knowledge to take a proactive approach to budget forecasts.

Further areas where a common set of tools can aid with operational efficiencies include universal document formatting, project management applications, and budget spreadsheets. A strong framework allows more time to be spent making and executing decisions, rather than on researching for information.

Group Purchasing

The final operational improvement suggested by IHETS is group purchasing. Utilizing IPBS as a universal negotiator or buyer can help stations achieve lower prices on various items and achieve standardization across stations.

For example, if several of the PBS stations wanted to update camera equipment, a cross-station grant application or negotiation for a single purchase can garner the necessary funding with applicable discounts for purchase volume.

Programming/Content Sharing

Content produced by individual IPBS stations is often targeted toward local or regional needs. However, much of the material also has a statewide and even national appeal. NPR and PBS have developed ways through which national content can be accessed via a local station Web site presence. This is a great place to start with regard to content sharing and program access. Creating an IPBS media player and media platform in addition to the aforementioned content distribution scheme can help each station find a wider audience while adding variety to their current programming.

Central Web Content Repository

If stations that participate in the common Web site platform as outlined wish to pull content from the central repository they can selectively or collectively do so. This allows each station to have publicly accessible content according to its own programming choices.

This content can come from a variety of sources, but a common platform of Web site presentation, players, etc. implements consistency in the brand. Thus, the content becomes like anything else viewed or listened to by IPBS audiences. The focus individual stations put on quality content circumvents any functional differences in

using available programming from other PBS or NPR stations. Stations of origin can keep an identifying mark while still giving credit to those who have created the piece.

While each station is able to pick and choose the content they wish to have facing the public, all the media can be aggregated and categorized on a central IPBS site. This positions IPBS as a central repository and 'channel' for statewide content distribution.

Content distribution can take many forms from an on-demand resource (i.e. Hulu) to themed streaming channels with highly specific, expert content for targeted consumers. Properly designed platforms can provide the foundation for specific channels with individualized graphic and functional elements.

Mobile Web Applications

Web site players and content on-demand portals are great ways to help share and distribute content through the Web site. At the same time, mobile devices are an ever growing market for the same video and audio content.

In general, the IPBS demographic aligns with that of Smartphone users. Providing access to IPBS content from these platforms presents another opportunity to connect with audiences.

A mobile web application would ideally be targeted at major U.S. Smartphone platforms including Windows Mobile, Blackberry, iPhone, and Android. Audio and video programming can add significant value to Web site operations, if properly encapsulated.

New Media

In many ways, the preceding sections of this report lead to new media. The previous sections serve to position IPBS in such a way that the ideas and possibilities discussed in the new media section become feasible and sustainable.

Existing Efforts and Platforms

Utilization of existing facilities and infrastructure is the first item to consider. Most notable are the national efforts by both PBS and NPR.

The separate efforts by PBS and NPR are both focused on delivering new media content that answer similar questions regarding Indiana's statewide interests. A vibrant environment of integration and interchange with respect to national efforts further exposes Indiana content to national attention.

A substantial number of consumers have a high degree of appreciation for the quality of IPBS reporting. As a decline in reporting among national media outlets becomes more prevalent, public broadcasting is upheld as a refreshing and trustworthy source.

IPBS audiences tend to have a higher degree of educational attainment compared to the mean. Current users indicated a polarized interest around certain programming topics.

Trends in Content Consumption

IHETS research strongly suggests the non-consumer group is largely unaware of information available through the outlets currently offered by public media. This incongruence appears to be centered on presentation format and ease of access to the information.

Our findings indicate that the college and recent graduate demographics are very interested in consuming information aligned with their overall interests. They are interested in self education but indicated that listening to or watching a program at an allotted time slot is not compatible with their lifestyle or mode of learning. They desire easily accessible content available for quick perusal and online viewing. This demographic is also interested in additional audio and video content links allowing them to further explore the subject once initial interest is attained.

Consumer attention spans and limited time availability were highlighted as driving influencers to viability of consumption. Most consumption patterns appear to occur around breaks, leisure time in the evening, or as content of interest encountered through other sources (i.e. viral posting patterns on social media sites where content is pre-filtered by trusted sources). The audience will only make time to delve further into subject matter after an initial prescreening for content value.

Looking at media sales, the pattern of consuming large collections of content containing individual pieces of interest (such as listening to an entire album and finding that one song) is being displaced by a pattern of seeking just the one piece of content that is deemed valuable. If the resulting impression is positive, additional pieces may be purchased. IHETS believes that modifying content presentation to fit this new model will attract additional consumers.

Ideally, new audiences attracted by this mode of consumption will also begin consuming the more traditional channels such as listening to NPR during drive time. It is important to note that a certain period of time is required to establish public broadcasting as a trusted provider of the content before a very meaningful increase in consumers can be expected from the new demographic.

Web Content Development

The most fundamental aspect of this endeavor is a technology platform that allows stations ease of access, ease of maintenance, and overall flexibility.

A good solution allows each station to have a radically different look and feel than the other stations (if so desired) but still operate on the same fundamental technology platform and interface. This creates bargaining power and an environment of cross training and skills development among all stations.

IPBS as a central entity can handle contracted Web site design and template development for participating stations. This allows the stations to focus their efforts on content development, rather than spending resources on the technology needed to present the content.

IHETS suggests the development of a very solid news presence by placing two or three localized feature content areas. These features can accompany standard content for

organizational identity that encourages users to move ahead with their interests in any given station. Content development and delivery are important for the success of this platform.

A centralized, yet station-unique technology platform will allow IPBS stations to develop products from the collective content that covers the entire state of Indiana. One example might be an IPBS site that simply mirrors the concept of the individual sites, but pulls content and other information together for a statewide audience.

Another approach, similar to Ohio's "Ohio Channel" state Web site, creates statewide brands around certain affinities (such as news, state house, arts, community engagement, etc.). The exchange and meaningful reuse of content as an abstract concept makes it possible to yield a solid return on the investment in technology.

User Interaction

The next steps are based on Web site 2.0 initiatives such as increasing interaction, information sharing, and a user-centered design.

Examples consist of:

- Talk-back functionality
- Areas for audience members to comment or share ideas with each other
- Audience contributed content areas, "communities"

The benefit received from engaging the audience by virtue of such tools promises to be tremendous.

Other ideas include the ability to put together a personalized radio or TV "station" from archived content for consumers to listen to during the day. IPBS as a central entity may wish to develop statewide versions of an arts or community calendar that identifies worthwhile events to attend.

Once a viewer selects a program and populates additional information, suggested links using Meta data provides options for further inquiry. This can develop into a sophisticated environment that suggests items over a timeline or enables other comparative features. This approach addresses the lack of knowledge many respondents indicated in regards to IPBS programming.

Detailed execution on social media sites (Facebook and Twitter), search engine optimization (SEO), and tagging topics can assist the overall new media strategy. These efforts should supply growth among potential audience members as well as opportunistic visitors.

A number of platforms are required to properly implement this new technology. This includes:

- Audio and video streaming platforms
- Content on-demand storage
- Web site platforms
- Ancillary pieces, maintenance, etc.

IPBS may be able to hire additional staff to handle these technology needs. Alternatively, outsourcing these consortium needs to a trusted partner with attractive rates will allow IPBS stations to focus on their core mission.

Revenue Opportunities

Our assessment suggests that new revenue opportunities and cost savings can fund all of the recommendations listed above. The aforementioned recommendations enrich existing revenue streams while adding new sources as well.

Content is the central draw for IPBS audiences and content areas offer opportunities for underwriting or sponsorship. Given the proposed growth, revenue opportunities should grow respectively. Augmentation and normalization of on-demand audio and video creates underwriting opportunities as well. One example is a branded player with underwriting recognition through short clips that precede and/or conclude the program content.

The development of a statewide presence creates the potential to:

- Reach further audiences
- Access additional funding resources
- Develop new advertising and underwriting opportunities

These benefits are derived simply through the reuse of existing content in an innovative, technological way.

Targeted Donation Systems

Web sites for individual programs or documentaries can create marketing and fund raising "hot spots". Donations from viewers to individual programs or subjects of interest become intimately possibly with sub sites. This will appeal to audience members who want to support a single programming choice or desire more control over what they fund.

A robust donation system propagated throughout member sites and passed through from the central IPBS location could help tap into potential revenue streams.

This type of donation system can include aspects of social media such as:

- Donor interaction
- Ability to measure the impact made by donating
- Control over the level of detail in contributions
- Stations can target specific funding initiatives

Utilizing social media functionality and creative analytics can yield information about user interests. Down the line, IPBS can use this information to apply relevant pitches or cues that motivate the individual to donate.

A social entrepreneurship donation system makes the donation process itself as painless as possible and can include:

- Creating mobile donation applications

- Setting up facilities for recurring donations via Web site-enabled transfer or credit card charges
- Automatically generating the charitable contribution forms
- Site profile that automatically fill in certain information
- Social bases providing instant connections on how the donation might help the station

Simplified Donation Processes

Increased corporate sponsorship opportunities should arise from a younger, more diverse audience using the new media initiatives. Additional membership dues and donor lists can also be generated from finding a broader audience.

Web-based donations provide an alternative to phone-based pledge drives and appeal to user activity such as listening to an NPR radio stream while at work.

In IHETS' research, college students and recent graduates indicated a willingness to provide a method of payment or donation to things they value as long as the process is easy and efficient. Research reinforces that attention span, time, budget, and convenience are major factors involved in the decision to donate.

Moreover, research indicates users are more likely to be attracted by proposals on how their funds could make an impact. Consideration should be given to the concept of micropayments (small donations) that often do not require the level of follow-up that larger donations demand, but can have a substantial impact. This concept is exemplified recently in the on-going Red Cross fundraising campaign for earthquake relief in Haiti. The suggestion to donate $10 automatically by text messaging a Red Cross number (the $10 was applied to individual phone bills) has generated over $32 million to date.

Advertising

Donation and underwriting are not the only sources of revenue to explore. Advertising can be added in appropriate places to multiply revenue potential from the same content. Advertising can be both tasteful and appropriate if done correctly.

An advertising widget (a graphical user interface that manipulates data) can display appropriate and unobtrusive advertisements based on the subject matter at hand and the site history of a particular user. If such a widget is made modular enough it can be leveraged to add value rather than detract from a page.

Localized advertising brings up another opportunity for each station to develop mutually beneficial relationships with local businesses. In exchange for their support, local color pieces that help drive business will generate revenue for both parties.

Final Thoughts

Presented above are a variety of options and observations obtained through research and technical expertise. While they are all individually important, the real potential is in the strategic interaction.

Results indicate that there is a question of long term relevance and strategic positioning of the value of public broadcasting in society. IHETS' believes that the time to act is now.

The steps outlined in this paper are important and necessary in positioning IPBS stations to best face the next round of challenges. Re-purposing available core content for web applications is the logical next step toward ensuring continued strong relevance in an increasingly on-demand world.

APPENDIX A: Reference List of Notable Web site sites and Media Innovators

I. **WGBH Boston: http://www.wgbh.org/index.cfm**
   a. Clean, efficient, well-organized media aspects on Web site
   b. Rotating images on homepage
      i. Visually interesting, good for promoting new shows/significant news pieces
   c. Separate sections to "watch" and "listen"
      i. Both contain a video player for short promotional videos and upcoming shows
         1. Promotional videos attract those with short attention spans
         2. Promotional videos help audience decide to "go further"
      ii. Both have access to national content
   d. Donation cues and tasteful advertising integrated into design
   e. Exhibits a level of transparency to the consumer regarding local and non-local content

II. **BBC: http://www.bbc.co.uk/**
   a. Demonstrates distribution of news content from a centralized Web site
   b. Consistent synergy between various elements on the site
      i. Integrated advertising that is tasteful
      ii. Visual cues to the eye find relevant information quickly
      iii. Well noted availability of related information and additional features

III. **WETA: http://www.weta.org/**
   a. Presentation above the fold news
   b. Tasteful use of advertising
      i. Use of images adds emotional ties to their fund raising pitch
         1. A stronger approach could yield even better results
   c. "Local" section to deepen identity of area served without cluttering the overall presentation on the site

IV. **KCTS: http://www.kcts9.org**
   a. Key information presented above the fold
   b. Non-invasive advertising techniques
   c. Local programs highlighted
   d. On-demand videos presented upfront

V. **WFMT: http://www.wfmt.com/**
   a. Demonstrates opportunities for streaming on-demand and live content
      i. Streaming functionality is underwritten
      ii. Site supplements use of mobile platforms to drive traffic
   b. Premium library available online for "members"
      i. Peeks into functionality can be developed to "tease" non-members
   c. Interactive features including message boards and blogs
      i. Talk-back functionality built into these features

VI. **The Ohio Channel: http://www.ohiochannel.org**
   a. Exemplifies access to statewide content in an affinity focused site
      i. Similar site could work for Indiana using content from IPBS stations entered into a central repository
   b. Easy to access archived video content and related Meta data

VII. **Barack Obama: http://www.barackobama.com/**
   a. Demonstrates unparalleled ability to engage audiences around topics
   b. Key information presented in an efficient, compelling format
      i. Virtually all content allows for interaction between audience and content creators
      ii. Most content is supplemented by videos and images
   c. "Community" component creates a lasting tie and identity between audience and organization

VIII. **Switch and Data: http://www.switchanddata.com/**
   a. Corporate Web site the presents "layers" of information and options in a concise, visually digestible format
      i. Visual elements and text elements integrating nicely to help lead the eye from one to another

IX. **Gamespot: http://www.gamespot.com**
   a. Easily navigable, yet extremely busy site
      i. Consistently presents twice as much information as is normally comfortable to users yet does not lose the audience
   b. Buzz created around sponsor content
      i. Sponsor information presented as a backsplash to the whole page
         1. Part of the image forms the background for the central, scrollable section
         2. Concept can be used to promote important station events

X. **Elgin Youth Symphony Orchestra: http://www.eyso.org/**
   a. Good example of above the fold design
   b. Information presented in a clear, concise fashion
      i. Organization can still promote more than one item or event

XI. **National Geographic: http://www.nationalgeographic.com/**
   a. Demonstrates ability to draw attention to the promoted content as well as affinity sites that focus on specific areas of interest

XII. **Discovery Channel: http://dsc.discovery.com/**
   a. Compelling presentation of key areas and interest pieces
   b. Well developed sub-sites for shows

XIII. **Oregon Public Broadcasting: http://www.opb.org/interact/**
   a. Users drawn to interactive features and the ability to participate in content creation

XIV. **Online Media Sites: http://www.youtube.com/; http://www.hulu.com/; http://www.pandora.com/**

a. Each demonstrates ease of content navigation, ability to customize content, interaction opportunities
b. All are currently cater to the younger, college and recent graduate demographic but have increasing potential outside of that group

XV. Kiva: http://www.kiva.org/

a. Information presented in a pared down, clean, chic way
    i. Use can deduct the entire organization's mission from the front page as well as aggregated stakeholder impact
    ii. Attention simultaneously focused on upper left hand corner or the screen as well as the top overall
    iii. Social media utilized to create a communal feeling while still delivering the information necessary to make informed decisions
b. Extremely simple donation process
    i. Use can move quickly through donation and then return to the main page to gauge the impact their donation has made

XVI. Donors Choose: http://www.donorschoose.org/

a. Attractive visual layout
    i. Combines mission statement and strong graphics directly on front page
    ii. Social media aspects display impact from donations
b. Locates user's geographic location
    i. Feature used to highlight impact donations have on that person's state
        1. Can also be used to highlight topics that may be of interest to individual users