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Land-Grant University Employee Perceptions of eXtension: A Baseline Descriptive Study

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Abstract: eXtension was publicly launched in 2008 as an online resource; however, adoption rates have been disappointing. The research reported here measured adoption of eXtension, willingness to participate in a Community of Practice, and adoption barriers among Oklahoma Extension employees. The adoption rate was 49%, and 43% of employees were willing to join a CoP. Lack of time and knowledge of eXtension were key barriers to adoption. Recommendations include training employees how to use eXtension and become a member of a CoP. Adopting scholarship guidelines to reward faculty and educators for contributing to eXtension may facilitate adoption of this innovation.

Introduction

Is Extension relevant for the 21st century? Bull, Cote, Warner, and McKinnie (2004), Kelsey (2002), King and Boehlje (2000), and Peters (2002) have addressed this question from various perspectives. As the outreach arm of the land-grant university, Extension has struggled with its role as knowledge disseminator for rural America over the past two decades, when a plethora of high quality information is instantly available via the Internet. For example, a Google search in 2010 on the topic of grape diseases yielded over one million results. One year later, the same search yielded over 10 million results, a tenfold increase in just

one year. The top 10 hits were from land-grant university sources, indicating easy and free access to land-grant university information without the need to contact an Extension educator.

Extension was conceptualized nearly 100 years ago for an agrarian and rural nation in need of development. The United States of America evolved during the 20th Century into a highly industrial and productive society, in large part because of our values of democracy and information dissemination. What then is the role of Extension in the 21st Century? How do Extension educators execute their mission of knowledge dissemination when the public has access to the same information as the experts?

Bull et al. (2004), Kelsey (2002), and Peters (2004) argue the answer to this question is in the context of community and public engagement with the goal of Extension being to "improve the quality of life for citizens" (Bull et al., ¶ 9). Bull et al. advised Extension educators to "keep Extension relevant to the changing learning needs of both communities of place and of interest" (Bull et al., ¶ 13). The "place of interest" could be interpreted as *online* in the 21st century as Americans spend a great deal of their work and leisure time connected to the Internet. Rainie (2010) found that 74% of American adults use the Internet and 60% use broadband connection at home.

King and Boehlje (2000) advocated for an online Extension competitor to the commercial sector or .com. Christensen, Bohmer, and Kenagy (2000) stressed Extension was in peril and unsustainable (face-to-face interactions with a small number of clients) because the Internet had unleashed and unhinged knowledge from "relatively expensive specialists in centralized, inconvenient locations" to the masses.

King and Boehlje (2000) proposed a virtual Extension service, e-CES as a start-up, not add-on to existing Extension structures, shifting the focus from supply side to on-demand delivery of land-grant university resources. Addressing this call to action, content was created and delivered using an online delivery system in 2003 as a result of efforts of the Association of Southern Region Extension Directors (Hightower, Murphrey & Dooley, 2010). e-Extension was officially launched in 2008 (Grace & Lambur, 2009). Hightower et al. (2010) defined eXtension as "a national, collaborative effort to provide research-based knowledge and information to larger, broader audiences through the use of online learning" (p. 484).

The goal of eXtension in 2003 was to become "a national Internet-based information and education network for current and new Extension customersâ™™providing accurate, up-to-date information for use anytime, anywhere" (Accenture, 2003, p. 8). Specific goals were to become a "centrally managed, but locally delivered state-of-the-art, full-service program that will use technology and new organizational processes such as Communities of Practice (CoP), Frequently asked Questions (FAQ), and various Wikis" to enhance the accessibility, quality, breadth, and depth of information to the public, foster collaboration within Extension by creating CoP, reduce duplication throughout the Extension system, and collaborate with non-traditional partners (Grace & Lambur, 2009, p. 5).

eXtension leaders envisioned a 75% adoption rate of the site by Extension staff and faculty by 2007 (Harder & Lindner, 2008). However, Harder and Lindner (2008) found a much slower adoption rate in Texas, although their data were collected before the official public launch of eXtension in 2008. Thirty-one percent of Extension educators had no knowledge of eXtension, and 51% had knowledge of the site but had not adopted it. In spite of national and state efforts to publicize and encourage use of the site, only 8% of Texas educators were using the site at the time of the study.

The idea of Communities of Practice (CoP) was outlined by Lave and Wenger (1991, p. 98) and defined as "a set of relations among persons, activity, and world, over time and in relation with other tangential and overlapping communities of practice" for the purpose of professional development, mentoring, and advancement from apprentice or novice to mastery through observation, interaction, discourse and practice

"situated in the social world" (p. 121). CoPs provide the structure for learning and problem solving to occur and create a space for interaction around an area of concern.

The benefits of participating in a CoP are networking with peers, working across disciplines, working in multi-state programs, learning from peers, teaching peers, reducing redundancy, and engaging the discipline in a more innovative and in-depth manner (Wenger, McDermott, & Snyder, 2002).

Sobrero (2008, ¶ 5) discussed the value of virtual communities of practice (VCoP) in relation to eXtension and concluded that engaged universities rely on virtual learning environments to "stay on the cutting edge in our disciplines, areas of expertise and issues valued by learners." Sobrero encouraged Extension staff to "interface with eXtension to address local issues and encourage social learning" as well as engage with other Internet-based resources.

The purpose of the research reported here was to 1) assess the rate of adoption of eXtension among land-grant university employees in Oklahoma, 2) assess employee willingness to serve as a member of a Community of Practice (CoP) within eXtension, and 3) document barriers to adoption of eXtension among employees.

Methods

A research-developed 10-item survey was administered to all Division of Agricultural Sciences and Natural Resources, Oklahoma State University employees using an internal list serve as the sample frame during the summer of 2010. The division employs 1,130 people, 23 of whom did not have an active e-mail account; thus, the solicitation was sent to 1,107 people. One hundred and thirty three (133) people responded to the survey, for a 12% response rate. The survey was administered using SurveyMonkey.com®. A link to the survey was included in an invitational e-mail. No follow-up contacts were initiated. The data were analyzed using descriptive statistics and content analysis for open-ended questions. The results of the study should not be generalized to other populations due to non-response error and small response rate (Dillman, 2000).

Results

The majority of survey respondents (52%) were Cooperative Extension employees consisting of Extension specialists (18%), Agricultural Extension Educators (14.3%), Family and Consumer Science Extension Educators (13.5%), and 4-H Extension Educators (6%) (Table 1).

Table 1.
Employee Role

Employee Role	Percent	Frequency
Teaching Faculty (more than 75% teaching appointment)	5.3%	7
Research Faculty (more than 75% research appointment)	6.8%	9
Extension Specialist Faculty (more than 75% extension appointment)	18.0%	24
Research Associate	1.5%	2
Other professional	5.3%	7

Administration	7.5%	10
Staff	12.0%	16
Graduate Student	0.8%	1
Agricultural Extension Educator	14.3%	19
Family and Consumer Science Extension Educator	13.5%	18
4-H Extension Educator	6.0%	8
Other	9.0%	12
Total	100.00%	133

A bi-modal distribution was observed in years of service in current position. Fifty-nine percent of respondents worked from zero to 10 years, and 25% worked from 21 to more than 30 years.

Eighty percent of the respondents had heard of eXtension, while 20% had not. When asked how many times per week employees used eXtension, 51% responded never, 36% responded one time per week, 9% responded two times per week, and 5% responded more than three times per week. Thirty-two percent of respondents referred their clients to eXtension, while 67% had not.

Respondents were asked to check all that apply to the various aspects they used in the eXtension site. The most frequently used aspects were the resource areas (30%), which contain specific content organized according to topics such as plants, animals, energy, sustainable agriculture, etc., followed by articles (26%) and FAQ (18%). Ask an Expert was used by 9% of the respondents (Table 2).

Table 2.
Aspects of eXtension Used by Employees

Aspects of eXtension	Percent	Frequency
None	47.3%	61
About	7.0%	9
Resource Areas	30.2%	39
News	12.4%	16
Articles	26.4%	34
Answers (FAQ)	17.8%	23
Calendar	3.1%	4
Learning lessons (courses and webinars)	14.0%	18
Ask an Expert	9.3%	12
RSS feeds	3.9%	5

Forty-three percent of respondents were willing to join a Community of Practice and contribute to eXtension, while 57% were not willing to join a CoP.

There were 63 comments listed under barriers to using eXtension. The barriers were categorized according to type and frequency (Table 3). The most frequent barriers were *a lack of time to adopt a new technology*, with 14 comments, and *I have never used eXtension/no knowledge of eXtension*, with 12 comments.

Table 3.
Barriers Faced by Employees to Using eXtension

Category	Frequency
Lack of time to adopt a new technology	14
I have never used eXtension/I have no knowledge of eXtension	12
Insufficient information on website	6
No barriers	6
eXtension website is not user friendly	6
I am confused about how I'm rewarded for contributing to eXtension for promotion and tenure purposes	5
The site is difficult to navigate	2
My clients have a fear of technology	2
I have no Internet access at home	2
My clients don't have Internet access	2
There is a lack of content specific to Oklahoma	2
I have not developed a habit of using eXtension	1
I lack administration support to mandate use	1
I suffer from information overload, no time to digest it all	1
I heard that an Ask an Expert question was forwarded to the wrong expert	1
Total	63

Employees were asked what their overall impressions were about eXtension. There were 66 comments listed. Forty-three of the 66 comments were interpreted as positive and favorable toward eXtension, 13 were

interpreted as negative, and 10 were interpreted as neutral. The most frequent response was *eXtension is a good or outstanding resource*, with 22 comments. Second most frequent was *I am unsure, I have not used the resource much or at all*, with nine comments (Table 4).

Table 4.
Employee Impressions regarding eXtension

Impression	Frequency	Positive Comment	Negative Comment	Neutral Comment
eXtension is a good/outstanding resource	26	X		
Unsure, I have not used the resource much or at all	9			X
Seems like a great resource but I don't have time to go to the site	4	X		
This resource will be used more in the future	3	X		
eXtension is OK	2	X		
This resources is not used by producers or Extension staff	2		X	
eXtension has the potential to supplant state's efforts	2		X	
Lack of trust regarding purpose of site	2		X	
I'm curious about the site and will explore more	2	X		
Useful training and features	1	X		
Now that I know it's there I will use it more or refer my clients to it	1	X		
Ineffective resource	1		X	
Good resource, but I have resource overload	1	X		
Less useful than Google search	1		X	
I'm frustrated by the lack of information on the site	1		X	
	1		X	

The site is difficult to use, disorganized				
Need to involve industry partners to improve the site	1		X	
Very easy to use and good variety of learning lessons available	1	X		
It saves me time and energy	1	X		
Great tool for sharing information globally and can bring recognition to individual universities and their faculty members	1	X		
Not relevant to Oklahoma	1		X	
Not enough incentive to use the site	1		X	
We need training on how to use and contribute to eXtension	1			X
Total	66	43	13	10

Conclusions

The results are a valid assessment of perceptions from the target audience because the majority of respondents were Extension employees. Eighty percent of the respondents had heard of eXtension, indicating knowledge of the innovation, the first stage in the adoption process. However, 50.8% of respondents had never used eXtension, indicating the innovation has not progressed past the knowledge stage for the majority of respondents (Rogers, 2003).

Of those who were using eXtension (49%), the majority were using resources and articles (57%) rather than becoming members in a CoP and contributing their knowledge and expertise to the resource. Fifty-seven percent of respondents were not willing to join a CoP, indicating a lack of interest in changing from traditional Extension and research modes of knowledge creation and delivery to a community-driven and virtual-programming model.

Lambur (2009) reported "significant growth in usage" of the eXtension public website from 2008 to 2009 as more content was added. According to the metrics collected by eXtension, 21,586 Oklahomans visited eXtension in 2009, up from 2,693 in 2007, indicating expanding interest in the website. However, the average time spent on the website was only 1:33 minutes, indicating low interest in the site. There were 160 eXtension ID holders (registered experts) participating in 32 of the 42 approved CoP in 2009 in Oklahoma.

One comment expressed fear and distrust that eXtension was a conspiracy to replace Extension at the state level, positioning eXtension as a competitor to the traditional Cooperative Extension Service model or as an added burden rather than an opportunity to develop relationships and as an innovative way to address a

community of interest. More administrative support is needed to dispel fear and increase adoption of the resource.

Barriers to using eXtension included a lack of time to adopt new technology and having never used the site. A lack of perceived administrative support and rewards for use may be an underlying factor for Extension employees not prioritizing adoption of eXtension. Reward in terms of tenure and promotion could be reviewed by administration to reflect contributions to eXtension, including joining a CoP and becoming an active user and contributor to eXtension as a shared resource.

Another barrier to adoption was that the site was not user friendly. At the time of this writing (summer 2010), eXtension leaders were beta-testing a new content management delivery system to replace the existing system, indicating eXtension staff are well aware of user interface challenges to the current site and are seeking better solutions.

Overall, respondents were positive about eXtension, indicating it was a good or excellent resource. Specific comments were "it's a very good educational tool" and "I think it's a wonderful resource! I wish I had more time to use it!" Respondents commented on the high quality of the information provided and usefulness of the site. They also noted that the site had potential but was not promoted locally or nationally.

Recommendations

The following recommendations are based on the findings to increase adoption of eXtension.

- Land-grant universities should undertake systematic training to inform and teach Extension faculty and staff how to use the site and become a member of a CoP.
- Scholarship guidelines for participating in eXtension as a CoP member should be developed and implemented by land-grant universities to reward staff and faculty for contributing to the resource. The scholarship of eXtension is discussed and several states have posted their newly developed guidelines for promotion at http://about.extension.org/wiki/The_Scholarship_of_eXtension.
- eXtension leaders should solicit input from users and adopt technology to increase ease of use of the site.
- eXtension should be fully integrated into the practice of Extension at all levels to truly serve as a useful resource for Extension and the public.

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