

The World's Largest Open Access Agricultural & Applied Economics Digital Library

This document is discoverable and free to researchers across the globe due to the work of AgEcon Search.

Help ensure our sustainability.

Give to AgEcon Search

AgEcon Search http://ageconsearch.umn.edu aesearch@umn.edu

Papers downloaded from **AgEcon Search** may be used for non-commercial purposes and personal study only. No other use, including posting to another Internet site, is permitted without permission from the copyright owner (not AgEcon Search), or as allowed under the provisions of Fair Use, U.S. Copyright Act, Title 17 U.S.C.

Information and Communication Technology Adoption: A Study of Northern Illinois Farmers Dena Hyde¹, Aslihan D. Spaulding¹, Kerry Tudor¹, Winn Mahatanankoon² Illinois State University

¹Department of Agriculture; ²School of Information Technology

Poster prepared for presentation at the Agricultural & Applied Economics Association's 2012 AAEA Annual Meeting, Seattle, Washington, August 12-14, 2012

Copyright 2012 by Dena Hyde, Aslihan D. Spaulding, Kerry Tudor, Winn Mahatanankoon. All rights reserved. Readers may make verbatim copies of this document for non-commercial purposes by any means, provided that this copyrightnotice appears on all such copies.

Information and Communication Technology Adoption: A Study of Northern Illinois Farmers Dena Hyde, Aslihan D. Spaulding, Kerry Tudor, Winn Mahatanankoon

Introduction

Most agricultural land is currently owned by older producers, and according to the Farm LASTS project at the University of Vermont, 70 percent of all farmland will change hands in the next 20 years. As a younger generation of farmers becomes more involved in decision making, and many of the important purchase decisions are usually made by more than one person, agribusinesses and agri-marketers need to know how the vounger decision-makers prefer to receive information (Smither and Covrig). The 2007 Agriculture Census revealed that older farm operators are less likely to report Internet access (39% of farmers 65 years and older vs. 68% of farmers under 45 years). Moss suggested that while a conventional audience (older farmers) might prefer to receive information primarily in print and broadcast form, a contemporary audience (younger farmers) is very comfortable with digital media and wants to participate in a social media conversation. According to research conducted by Successful Farming magazine, farmers are quickly adopting smartphone technology (Walter). Farmers can also use the Internet to search for input suppliers and to locate potential buyers for their products (Mishra et al). Walter also indicated that the younger farmers are making greater use of smartphones. They are using their mobile devices to access the Internet on a daily basis as mobile devices are seen as quick and current (Moss and Steever).

Objectives

This study was designed to find answers to the following questions:

- Are Northern Illinois (NI) producers adopting new information and communication technologies?
- How do NI producers want to receive information from service and input suppliers?
- What technology platforms are used and preferred?
- Do NI producers use social media?
- What work-related functions do NI producers accomplish via information and communication technologies?
- What challenges do NI producers face when it comes to accessing information electronically?
- What effects do size of operation, operator age and operator education have on adoption of information and communication technologies?

Methodology

A mail survey was used to collect data. The questionnaire included questions about farm and farmer demographics, use of communication technology: preferred sources of information for farm related decisions; types of work related activities farmers do or would like to accomplish via information and communication technologies; and challenges faced when adopting information and communication technologies. A simple random sample of 1,000 farmers was selected from a database provided by 1st Farm Credit Services. A donation to St. Jude's Children's Research Hospital on behalf of each respondent was offered as an incentive to participate. The 1st mailing was sent on April 19th, 2012. The second mailing was sent on June 4th. The data from the 1st mailing was SPSS.

Results

Out of 1,000 surveys, four were undeliverable, 51 were not completed and returned, and 253 were completed and returned for 25.3% response rate. This poster shows a summary of results from the 1st mailing.

Average	N	Mean
Age of Respondent	251	53.8
Years of Farming	245	30.7
Corn Acres	244	801.8
Soy Acres	228	392.2
Wheat Acres	47	78.2
Other Acres	87	239.6
Total Acres	253	1,223.7
Number of Employees including self	244	2.0





Contacti auspaul@iistuicuu		C. A. S.	ACCESS TO INTERNET USING COMPUTERS						CC 622 25				
		HAS ACCESS TO INTERNET	via LAPTOP	via CELLPHONE	SEL COMM	L ING ODITIES	TRA COMO	DING DITIES	LO INFOR	AN MATION	I	SIGN PAPERS	
	NO	69.6	56.5	55.9	5	4.7	5.	5.1	55	.1		53.8	
	YES	52.1	50.0	49.0	5	0.8	4	8.6	48	.4		48.2	
	AGE DIFFERENCE	17.4	6.5	6.9	2	3.9	6	5.5	6	.7		5.6	
			ACCESS TO INTERNET		USE FOR FARM BUSINESS PURP					OSE			
		HAS ACCESS TO INTERNET	via DESKTO	via P TABLET	CELL	PHONE	SMA	RT PHON	E TA	BLET I	RECEI	VE TEXT	
	NO	569.8	595.1	1043.5	3	74.7	- C	1066.6	9	92	8	95.1	
	YES	1,279.4	1,295.0	1,755.7	1,2	275.8		1,532.5	1,9	948.4	1,	371.7	
	ACRES DIFFERENCE	-709.6	-699.9	-712.2	-9	01.1	-	-465.9	-9	56.4	-4	476.6	
		USE FOR FARM BUSINESS PURPOSE						CEIVE TEXT	SEND TEXT				
	NO	69.4	57.0	54.5	5	53.7	53.5	55.8		57.4		61.5	60.1
	VFS	53.1	46.9	49.		37.1	46.5	47.6		52.3		50.3	48.8
	AGE DIFFERENCE	16.3	10.0	5.4		16.6	7.0	8.2		5.2		11.2	11.3
		USING SMARTPHONES									Statist		
	MARKETS	CROP 5 INSURANC ON INFORMATI	REM E FROM	INDERS/UPD. 1 INPUT&SEF PROVIDERS	ATES	SELLI COMMOI	NG DITIES	TRAI COMMO	DING	LOAN INFORMA	N TION	FARM MAGAZINES	NEWSLETTER
NO	55.3	53.7		54.6		54.8		54	.7	53.5		53.7	54.6
YES	48.5	47.8		47.4	-	47.4	1.2.2.2	45	.6	45.5	-	44.8	45.7
		60		7.0		74		0	1	0.1	_	0.0	0.0



89 81 79	⁷⁶ ⁶⁹ ⁶⁹	01
	⁶² 59 52 47 47 47	46 44 43 40 38
		32 22
A 55 . A . A	6 6 . 6 6 . 8 5 5 5 5	\$ \$ \$ \$ \$ \$ \$ \$ \$
sealine Mate Informatic Stoppin Of	a Balance Serve and the market pointer More I market	20 Connotice Spectroster of the
arching for person and toot	18 Adv Barbine control Way I've Por prosteril Property	Selle Ontrange Crate Mon
Mart	Undate by Construction	Mane
		Conclusions



	DISAGREE	AGREE	AGE DIFFERENCE		
l like working with mobile devices	56.5	47.8	8.7		
l look forward to those aspects of my job that require me to use a mobile device	57.2	47.3	9.9		
Using a mobile device is frustrating for me	55.4	46.0	9.4		
get bored quickly when working on a mobile device	50.2	58.3	-8.0		
feel apprehensive about using mobile devices	49.4	55.2	-5.8		
It scares me to think that I could cause the mobile device to destroy a large amount of information by hitting the wrong key	50.8	59.4	-8.6		
I hesitate to use a mobile device for fear of making mistakes I cannot correct	49.5	56.3	-6.8		
Mobile devices are somewhat intimidating to me	49.8	57.4	-7.6		
Mobile devices can help me be better organized	48.4	58.2	-9.8		
Mobile devices can increase my effectiveness on the job	57.7	49.0	8.7		
I could spend less time on routine job tasks by using mobile devices	56.2	49.5	6.7		
Quality of output of my job can increase with mobile devices	55.8	49.4	6.4		
My coworkers will perceive me as competent if I use a mobile device	54.6	49.6	5.0		

Younger Farmers

 Use a laptop or cell phone to access internet.
 Sell and trade commodities, look up loan information, and sign papers using commuters.

 Sell and trade commodities, look up loan information, and sign papers using computers..
 Use cell phone, smart phone, tablet, twitter, blog, apps, farm

- $\boldsymbol{\diamondsuit}$ Get bored quickly when working on a mobile device.
- Feel apprehensive about using a mobile device.
 Think that they could cause the mobile device to destroy a
- large amount of information by hitting the wrong key.
- Hesitate to use a mobile device for fear of making mistakes they cannot correct.
- Are intimated by mobile devices

Older Farmers

Believe that mobile devices can help them be better organized.

Larger Farm Operations

- Have access to internet using a desktop computer or a tablet.
 Use cell phone, smart phone, and tablet for farm business purposes.
- Receive text messages for farm business purposes.



2007 Agriculture Census, "Farmers by Age," Retrieved January 10 2012 from http://www.agcensus.usda.gov/Publications/2007/Online_Highlights/Fact_Sheets/farmer_age.pdf

Somither, Mark and Heather Coving. "How Multi-Generational Farming Operations Make Major Purchase Decisions," Retrieved January 2, 2012 from http://agribranding.as.amazonaws.com/How+Multi-Generational+Farming+Operations+Make+Major+Purchase+Decisions.pdf

* Mishra, Ashok K., Robert P. Williams, and Joshua D. Detre. (2009). "Internet Access and Internet Purchasing Patterns of Farm Households." Agricultural and Resource Economics Review. 38/2. October 2009. 240–257

Moss, Kristi and Sara Steever. "Adoption of Communication Tools in Agriculture." Retrieved January 5, 2012 from http://agribranding.s3.amazonaws.com/Adoption+of+Communication+Tools+in+Agriculture.pdf
Walter, John. "Smartphones a Big Trend." Retrieved January 2, 2012 from http://www.agriculture.com/farm-management/technology/cell-phone-and-smart-phones/smartphones-a-big-trend, 325-ar20351

The Farm LASTS Project. "Online Manual." Retrieved January 2. 2012 from http://www.uvm.edu/farmlasts/?Page=about.html

