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The Economic Value of Trust

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2016 NCERA-210 Conference
Minneapolis, MN

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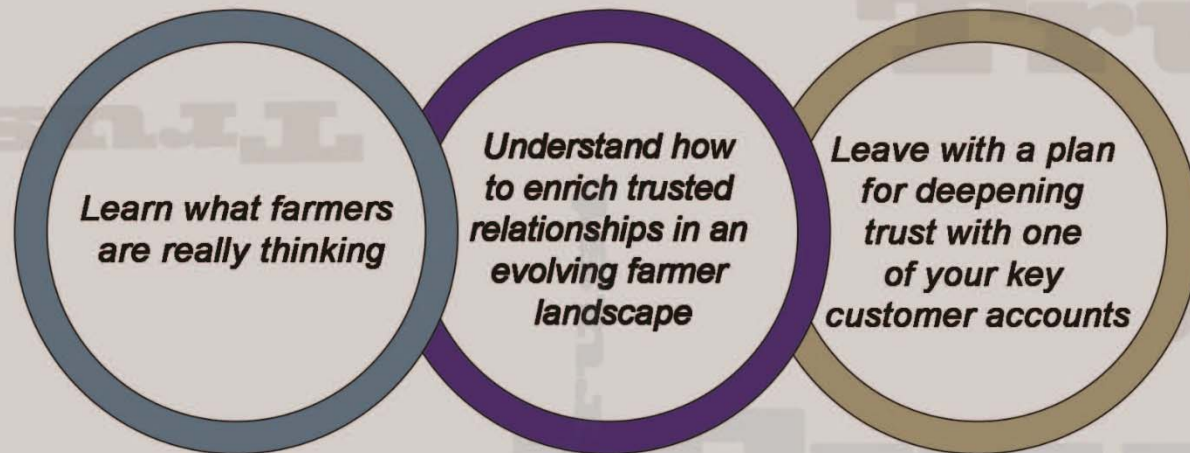
WHY TRUST?

Building Trusted Relationships

Come and learn more about trust in an innovative educational program for emerging leaders in companies that operate on a cooperative basis.

For more information and to register: www.accc.ksu.edu/trust.html

Key takeaways from this Emerging Leaders program:



Program Faculty

Robert Galford, co-author of *The Trusted Advisor* and *The Trusted Leader*
Brian Briggeman and Kevin Dhuyvetter, Kansas State University
Scott Downey, Purdue University

Trust Based Literature

- Trust in a salesperson is supported by competence in valid and reliable information (Swan, Bowers, and Richardson, 1999)
- The more someone trusts a representative, the more they trust the organization (Zaheer, McEvily, and Perrone, 1998)
- It is the basic goal for sales representatives to not only make the sale to new customers, but to also gain and maintain long-term relationships (Swan, Trawick, Rink, Roberts, 1988)
- Gains and losses are evident in trusted relationships (Coleman, 1990)
- Trust is a valued form of social capital (Wilson, 2000)

Four Components of Trust

Trust Component	Realm	Example
Credibility	Words	I can trust what he says about...
Reliability	Actions	I can trust her to...
Intimacy	Emotions	I feel comfortable discussing this...
Self-orientation	Motives	I can trust that he cares about...

Source: "The Trusted Advisor" Authors, David H. Maister, Charles H. Green, and Robert M. Galford

Objective

- Assess Kansas farmers' general thoughts on and perceptions of trust
- Estimate Kansas farmers' willingness-to-pay for each trust component
 - Loan officer and operating loan
- Identify the most important ways a sales rep can demonstrate (1) credibility; (2) reliability; (3) intimacy; (4) self-orientation

Collecting data

- Initially aimed for in-person survey with KFMA farmer-members
 - \$50 show up fee and lunch
 - Focus on “quality” of data...trust could be nebulous
 - Problem, very few signed up
- Developed an online survey and circulated it via mail and email to KFMA membership as well as to Kansas co-op farmer-directors
 - \$50 Visa gift card for completing between 7/20 & 8/31
 - Online validation: (1) Are you a Kansas farmer and/or rancher? (2) Please provide the password.
 - Mailed and emailed to roughly 2,500...response rate?
 - Had 193 usable farmers responses from the survey

Flow of online survey

1. Validation of being a Kansas farmer and/or rancher
2. General thoughts on trust
3. Best-worst questions on how ag sales rep can illustrate or demonstrate (1) credibility; (2) reliability; (3) intimacy; (4) self-orientation
 - Balanced-Incomplete Block Design: 7 statements, 7 blocks, 4 statements per block (D-efficiency 90)
4. Choice experiment on rating loan officer and then ranking their current loan officer versus 2 hypothetical loan officers
 - No loan? No problem. Rank your current situation of no operating loan versus the 2 hypothetical loan officers.

Flow of online survey (continued)

4. Choice experiment on rating loan officer...
 - 4 Trust Factors with 2 levels (very low and very high) and Interest Rate (presented as a % and as Interest Cost per \$1,000...so 6% and \$60) with 3 levels (remain at current interest rate, +2%, and -2%)
 - Orthogonal design is based on main effects and interactions between the 4 Trust Factors (6 blocks with 8 sets of rankings per block...D-Efficiency = 93.0)
 - 6 blocks completed w/ operating loan (181 responses)
 - 6 blocks w/o operating loan (12 responses)
5. Demographic and economic wrap-up questions

ECONOMIC VALUE OF TRUST IN A LENDING RELATIONSHIP

37, part A. Think about that loan officer who you work with and who oversees your operating loan.

Please rate this loan officer in the following characteristics:

	Very Low Credibility	Low Credibility	Moderate Credibility	High Credibility	Very High Credibility
Credibility	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
	Very Low Reliability	Low Reliability	Moderate Reliability	High Reliability	Very High Reliability
Reliability	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
	Very Weak Connection	Weak Connection	Moderate Connection	Strong Connection	Very Strong Connection
Connection with Both You and Your Operation	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
	Very Focused on Themselves	Focused on Themselves	Moderate Focus	Focused on You	Very Focused on You
Focus in Relationship	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>

37, part B. Please type in the box below your current or most recent annual interest rate you paid on this operating loan.

For Example: If you had a 5.75% interest rate, you would type in 5.75

6.15 %

38. Let's assume you have a choice between various loan officers and interest rates. That is, you could choose your current loan officer or from 2 different loan officers that are each offering their own interest rate. Below are 8 different sets of loan officers that only differ across the four trust factors and their given operating loan interest rates. All other factors about these loan officers and operating loans are similar. The first two loan officers have their given trust factors and stated interest rates, and 'Your Loan Officer' reflects the response you provided earlier about your actual loan officer.

Within each of the sets below, please rank the first loan officer, the second loan officer, and your loan officer from 1 being the most preferred to 3 being the least preferred.

Set #1

	Loan Officer A	Loan Officer B	Your Loan Officer
Credibility	Very Low Credibility	Very Low Credibility	High Credibility
Reliability	Very High Reliability	Very High Reliability	Very High Reliability
Connection with You and Your Operation	Very Strong Connection	Very Weak Connection	Moderate Connection
Focus In Relationship	Very Focused on Themselves	Very Focused on You	Focused on You
Interest Rate (Interest Cost per \$1,000)	8.15% (\$81.5)	4.15% (\$41.5)	6.15% (\$61.5)

For set #1, click on the drop down boxes below to rank Loan Officer A, Loan Officer B, and your loan officer from 1 being the most preferred to 3 being the least preferred.

Loan Officer A	Loan Officer B	Your Loan Officer
<input type="text" value="▼"/>	<input type="text" value="▼"/>	<input type="text" value="▼"/>

Set #2

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Modeling the Economic Value of Trust

Rank Ordered Logit

$$U_{j,n} = v_{j,n} + \varepsilon_{j,n} = \sum_k^K \beta_k x_{j,n} + \varepsilon_{j,n}$$

$$\Pr(U_{j,n}) = \Pr(U_{j,n} > U_{\neq j,n}) = \frac{\exp(\mathbf{x}_{j,n})}{\sum_{j \in J} \exp(\mathbf{x}_{j,n})}$$

	Parameter Estimate	WTP (Interest Rate)
Credibility	0.225*	0.78%
Reliability	0.241*	0.83%
Intimacy	0.118*	0.41%
Self-Orientation	0.270*	0.93%
Interest Cost	-0.029*	
Current Loan Officer = 1; Else = 0;	2.103*	

**FARMERS' VIEWS ON HOW TO BUILD A
TRUSTED RELATIONSHIP –
BEST WORST ANALYSIS**

Questions 9-15 of 50

Trust Factor: Credibility

9. When working with an ag sales rep, you may often assess their credibility. Below are several repeated statements that report ways an ag sales rep can demonstrate credibility.

In the set of statements below, please click the button of the one statement that **MOST** represents credibility in an ag sales rep, and click the button of the one statement that **LEAST** represents credibility.

Most Represents Credibility		Least Represents Credibility
<input type="radio"/>	Does their homework on me and my operation	<input type="radio"/>
<input type="radio"/>	Does not lie or exaggerate	<input type="radio"/>
<input type="radio"/>	Years working in the industry	<input type="radio"/>
<input type="radio"/>	Is passionate and loves their topic	<input type="radio"/>

Best Worst Modeling Approach:

- (1) Count method - # of times statement selected as “most” subtracted from # of times statement selected as “least” (histograms)
- (2) Discrete choice model – choose the two items that maximize the difference between two items on an underlying scale of importance

$$\text{Prob}(j \text{ is chosen best and } k \text{ chosen worst}) = \frac{e^{\lambda_j - \lambda_k}}{\sum_{l=1}^J \sum_{m=1}^J e^{\lambda_l - \lambda_m} - J}$$

$$IS_j = \frac{e^{\hat{\lambda}_j}}{\sum_{k=1}^J e^{\hat{\lambda}_k}}$$

Conditional Logit Model Estimates

Credibility

Conditional Logit Estimates and Representative Shares for Credibility

Credibility Statements	CLM Estimates	Representative Share
Does not lie or exaggerate	2.316*	0.281
When they don't know, they say so	2.170*	0.243
Well researched and knowledgeable of topic	2.151*	0.238
Does their homework on me and my operation	1.216*	0.094
Reputation of the company they work for	0.750*	0.059
Is passionate and loves their topic	0.732*	0.058
Years working in the industry	Base	0.028

Note: Statistical significance at the one percent level is represented by a *.

Conditional Logit Model Estimates

Reliability

Conditional Logit Estimates and Representative Shares for Reliability

Reliability Statements	CLM Estimates	Representative Share
Follows through on actions requested by me	3.361*	0.452
Makes specific commitments and delivers on them	3.078*	0.341
Adapts to changing circumstances and situations	1.679*	0.084
Are always transparent	1.295*	0.057
Make sure meetings have clear goals, not just agendas	0.645*	0.030
Reputation of the company they work for	0.228**	0.020
Sends meeting materials in advance	Base	0.016

Note: Statistical significance at the one percent level is represented by a *

Conditional Logit Model Estimates

Intimacy- How well the sales representative knows the farmer and their operation

Conditional Logit Estimates and Representative Shares for Intimacy

Intimacy Statements	CLM Estimates	Representative Share
Understands my goals, mission, and values	2.401*	0.335
Able to be candid and upfront about situations	2.255*	0.289
Stays in contact via calls, visits, etc.	1.714*	0.168
Years working with me	1.123*	0.093
Shares a common interest	0.562*	0.053
Finds the fun and fascination in my operation	0.025	0.031
Not afraid to make conversation	Base	0.030

Note: As presented in the survey, intimacy is how well one knows the customer and his or her goals.

Statistical significance at the one percent level is represented by a *.

Conditional Logit Model Estimates

Self-Orientation - The Focus of the Sales Representative

Conditional Logit Estimates and Representative Shares for Self – Orientation

Self-Orientation Statement	CLM Estimates	Representative Share
Focuses on defining the problem, not guessing the solution	2.911*	0.364
Listens without distractions	2.188*	0.177
Asks open ended questions to better understand me	1.983*	0.144
Asks me to talk about what's behind an issue	1.904*	0.133
Reflective listening, summarizing what they've heard	1.769*	0.116
If communication fails, they take most of the responsibility	0.827*	0.045
Allows me to fill the empty spaces in conversations	Base	0.020

Note: As presented in the survey, self-orientation is showing one has the customer's best interest at heart.

Statistical significance at the one percent level is represented by a *.

More work to do!

- Differences across farmer responses by age, gender, farm size, etc.
- Random Parameters model (trust views and parameters are likely heterogeneous)
- Testing the interest rate as a “reference point”...do folks with lower and higher interest rates place a different value on trust
- Predicting new customers through robustness check (predict individuals without a loan)
- I’m sure there is a lot more!

Questions

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The Trust Equation

$$\text{Trustworthiness} = \frac{\text{Credibility} + \text{Reliability} + \text{Intimacy}}{\text{Self-orientation}}$$

How do we increase trustworthiness in this equation?

T ↑ if C ↑ and/or R ↑ and/or I ↑ and/or S ↓

How do we decrease trustworthiness in this equation?

T ↓ if C ↓ and/or R ↓ and/or I ↓ and/or S ↑

Source: "The Trusted Advisor" Authors, David H. Maister, Charles H. Green, and Robert M. Galford

Socioeconomic Patterns in Trust

- Overall Trust Score -----> 7.07
- Trust Scores by Farmer's Total Revenue
 - Revenue > \$1,000,000 -----> 8.00
 - \$1,000,000 > Revenue > \$250,000 -----> 6.87
 - Revenue < \$250,000 -----> 6.55
- Trust Scores by Farmer's Total Acres
 - Acres > 2,500 -----> 7.36
 - Acres < 2,500 -----> 6.92
- Trust Scores by Farmer's Gender
 - Male -----> 6.76
 - Female -----> 8.67

Time Patterns in Trust

- Overall Trust Score -----> 7.07
- Trust Scores by Farmer's Age
 - Age > 65 -----> 7.28
 - 65 > Age > 40 -----> 7.09
 - Age < 40 -----> 6.74
- Trust Scores by Years Farming
 - Experienced Farmer (> 10 years) -----> 7.24
 - Beginning Farmer (< 10 years) -----> 5.55
- Trust Scores by Years with Loan Officer
 - More than 5 years-----> 7.20
 - Less than 5 years -----> 6.75

Decomposing Trust: What matters most?

- We asked farmers to think of an agricultural sales representative.
- Then, we asked them to **rank** the following four components of trust, where 1 indicates the most valued quality to 4 being the least valued:

	Your Rank	Farmers' Rank
Credibility	_____	_1.94_
Reliability	_____	_1.99_
Intimacy	_____	_2.68_
Self-Orientation	_____	_3.40_

Do farmer statements match actions?

- Farmers stated their trust components rankings
- Farmers also made choices on what types of trust they preferred most
- Their stated rankings do not match their choices

	Farmers' Rank	Farmers' Choice
Credibility	___1___	___3___
Reliability	___2___	___2___
Intimacy	___3___	___low 4___
Self-Orientation	___4___	___1___

GENERAL TRUST AND SOCIO- ECONOMIC RESULTS

Table 1. Descriptive Statistics				
Variable	Observations	Mean	Median	Std. Dev.
<i>Respondent Demographics</i>				
KFMA = 1 ; Non KFMA =0	193	0.76	1	-
Male = 1 ; Female =0	193	0.85	1	-
Age	193	55.04	56	13.62
Farming Primary Occupation =1; Not Primary Occupation = 0	193	0.91	1	-
Years as Primary Occupation	175	29.97	28	17.65
<i>Farm Operations</i>				
Primary Operator =1 ; Not Primary Operator =0	193	0.84	1.00	0.36
Acres Farmed/Ranched	193	2,544.43	1,800.00	2,526.14
<i>Primary Production</i>				
Crops = 1 ; Else 0	193	0.61	1.00	0.49
Livestock = 1 ; Else 0	193	0.18	0.00	0.38
50/50 = 1 ; Else 0	193	0.21	0.00	0.41
<i>Financial Measures</i>				
Revenue	193	\$780,494.82	\$425,000.00	\$1,084,378.22
Assets	193	\$2,627,264.25	\$1,750,000.00	\$2,433,164.42
Debt	193	\$529,585.49	\$237,500.00	\$954,395.77
Debt to Asset Ratio		20.16%		

Table 2: General Trust			
Variable	Observations	Mean	Median
<i>Likert Scale(1- Strongly Disagree ; 5- Strongly Agree) - In General:</i>			
People are trustworthy	193	3.554	4
People are trustful of others	193	3.482	4
I am trustworthy	193	4.637	5
People respond in kind when trusted	193	4.098	4
<i>Likert Scale(1- Strongly Disagree ; 5- Strongly Agree) -Ag Sales Representatives are :</i>			
Trustworthy	193	3.534	4
Credible	193	3.513	4
Reliable	193	3.508	4
Intimate	193	3.487	3
Self-Oriented	193	3.098	2
Average number of Ag. sales reps	193	9.668	8
<i>How many of those relationships are trusted:</i>			
None = 1 ; Else 0	193	0	0
Very Few = 1 ; Else 0	193	0.021	0
Few = 1 ; Else 0	193	0.031	0
About Half = 1 ; Else 0	193	0.135	0
Most = 1 ; Else 0	193	0.637	1
All = 1 ; Else 0	193	0.176	0
<i>How long does it take you to trust:</i>			
Very Slow = 1 ; Else 0	193	0.067	0
Slow = 1 ; Else 0	193	0.518	1
Quick = 1 ; Else 0	193	0.399	0
Very Quick = 1 ; Else 0	193	0.016	0

Table 3. General Trust Ranks	
Variable	Average Rank
<i>Rank from 1 being the most important factor when making a purchasing decision to 3 being the least important factor.</i>	
The purchase's overall impact on the farm or ranch	1.394
Your relationship with the sales representative	2.575
The price of the product or service being purchased	2.031
<i>Rank each industry from 1 being the most important to have a trusted relationship with the industry's sales representative to 4 being the least important.</i>	
Ag Lending	1.632
Grain/Livestock	2.694
Agronomy	2.456
Machinery	3.218
<i>Rank the following four qualities you value most in the relationship, where 1 indicates the most valued quality to 4 being the least valued quality in relationships:</i>	
Credibility	1.938
Reliability	1.990
Intimacy	2.679
Self-Orientation	3.394

Histograms

- Using a count method, histograms were created to show a distribution of farmer responses
 - “Most representative” allocated 1
 - “Least representative” allocated -1
 - Not selected allocated a 0
- Each statement can have range 4 to -4

