

The influence of trust in the Nicaraguan Learning Alliance on capacity development of members and other influenced groups

Authors

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Abstract

The “Nicaraguan Learning Alliance” (NLA) is a network of Non-Governmental Organizations (NGOs) and local agricultural development institutions with the objective of developing the agribusiness capacities of Nicaraguan farmers. This paper presents results from field validation of a conceptual framework to carry out impact evaluation of such multi-stakeholder agricultural innovation systems using the NLA as the object of study. In the context of the NLA this impact assessment focused on trust and capacity development. Key informant interviews, focus group discussions and individual questionnaires were used to collect data. The quantitative analysis was done using descriptive and factor analyses as well as linear regression. Results from the quantitative analyses were triangulated with the qualitative data. The analysis shows that the NLA has been successful in its activities of developing smallholder farmers’ agribusiness capacities. However the NLA-members and their partners were not found to have more trusting relationships or better capacity development than the control group. One recommendation from this study is that more interactions between the different stakeholders should be facilitated within the NLA in order to make its services more sustainable and efficient.

Keywords

Impact evaluation, Innovation platform, Learning alliance, Nicaragua, Trust, Capacity development, Value chains

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Introduction

Traditionally, gaining of knowledge and capacity development have followed a linear approach. Researchers and experts transferred their knowledge to the target group after development. This model has largely failed because it did not respond to the actual problems of its intended beneficiaries (Klerkx, Leeuwis, and van Mierlo 2012, 459 ff.; Lundy and Gottret 2005, 2).

This shortcoming formed the base for “model two”, in which more interactions between the different stakeholders take place and changes can be adopted more rapidly (Hall 2007, 8 ff.). The International Center of Tropical Agriculture (CIAT) adopted this strategy and developed Learning Alliances (Lundy and Gottret 2005, 2). Learning Alliances can be assimilated to innovation platforms, a group of individuals with different backgrounds and interests who come together to diagnose and solve their common problems (Homann-Kee Tui et al. 2013, 1; Lundy and Gottret 2005, 1 f.).

The Nicaraguan Learning Alliance (NLA) is an alliance of different NGOs and other organizations that was formed in 2003. The alliance is teaching training guides about business management and access to markets to their partners. The aim of the NLA is to replicate the knowledge through different geographical levels in order to reach farmers in a successful manner (AdA 2014a).

The conceptual framework developed by ILRI (Cadilhon 2013) to evaluate the impact of innovation platforms attempts to simplify complex data within the categories of structure, conduct and performance. Capacity development is a principle goal of the NLA to gain high and efficient replication of its produced knowledge. As in many agricultural value chains, trust between business partners is an important characteristic of the Nicaraguan agribusiness sector (Landmann 2015). Thus, in this study of the NLA, trust was used as a conduct variable and capacity development as a performance variable to field-test Cadilhon’s (2013) conceptual framework.

The main objective of the study was to understand the interactions between structure, conduct and performance of the NLA-network. This study also aims to answer the following research questions:

- Does the NLA strengthen the producers’ capacities through the channels of their partners and if so, how?
- Does the NLA structure and the conduct of its network partners (focusing on trust) influence the capacity development of its partners, and if so, how?

Innovation platforms and learning alliances in the agricultural sector

An innovation platform (IP) is defined as a network of different stakeholders with the main goal of identifying problems and finding solutions through innovations. The members of the platforms are individuals or representatives of organizations, companies, sectors or institutions (Homann-Kee Tui et al. 2013, 1 f.; Tenywa et al. 2011, 130).

Learning alliances follow the same methods as IPs and can be seen as innovation platforms. The concept has been successful thus far, which has led to their adoption in 20 countries around the globe (Lundy and Gottret 2005, 2 f.). The learning alliance approach is based on the concept of “social learning” and “innovation systems”. Social learning is defined as an interactive process between the stakeholders for the purpose of solving problems. Combining these two methods creates process of collaborative learning, adaption and innovation among the participants. The objectives of learning alliances are to develop knowledge, learn across different boundaries, create synergies among the participants, exchange information between the participants and to develop flexible mechanisms that apply to different topics (Lundy and Gottret 2005, 4 ff.). In general the idea is to add value and create synergistic relationships between different members, and to build up a network that transcends levels (Micro, meso and macro).

CIAT's experiences with learning alliances have been very positive since they were first initiated in the year 2000. Positive aspects are that stakeholders participate directly, pilot innova-

tion occurs where help is needed, information exchange occurs face to face and analyses throughout the entire experience helps to evaluate the alliance including its processes (Lundy and Gottret 2005, 11 ff.).

Nicaragua – Background information

From the economical point of view Nicaragua, the second poorest and one of the least developed countries in Latin America and the Caribbean region, has struggled in the last few decades, which have been characterized by natural disasters including earthquakes, hurricanes, floods and droughts, as well as social issues, such as economic crisis and civil war (The World Bank Group 2014a).

The country is classified as a lower middle income country, and has a poverty rate of 42.5% and a GINI coefficient of 40.5. In the year 2013 GDP growth was 4.2% (The World Bank Group 2012, 2 ff.). Inflation decreased from 25% in 2008 to eight percent in 2011, and economic activity grew at 5.4% in 2011 (The World Bank Group 2014b). Just over 6 million people live in Nicaragua. In 2013 fifty-eight percent of the Nicaraguan population lived in cities and 42% in rural areas (FAOSTAT 2014).

In the educational sector in 2008 the rural population had on average four years less education than the urban population (The World Bank Group 2012, 1 ff.).

In the agricultural sector cooperatives have an important role. There were 6,655 cooperatives in total in Nicaragua in 2007 representing 500,000 individuals, of which 60% are men and 40% are women. More than half (62%) of the cooperatives form part of the agricultural sector (Laforteza and Consorzio 2009, 34).

Structure of the Nicaraguan Learning Alliance

The Nicaraguan Learning Alliance (NLA) is part of the Learning Alliance (LA). The LA started its work in the year 2003 in four countries in Latin America (Lundy and Gottret 2005, 3). This regional alliance created a method of capacity development that is used in different platforms. This proposal includes a series of five methodological guides for sensitization and self-assessment, strengthening socio-organizational processes, strategic orientation with a focus on the value chain, and development of business plans and strengthening of services¹ (AdA 2014a). The process of each alliance is structured in learning cycles. A cycle starts with the knowledge of the previous cycle. In these cycles, the Alliance members and their partners follow this path in seven steps:

1. Identify what stakeholders want to learn at the end of the process (Question learning).
2. Recognize the knowledge existing in this field of study (a good existing practice).
3. Select the methods and tools (Prototype).
4. Co-develop the prototype that applies in the field, through training and guidance.
5. Implement the developed prototype (Field application).
6. Workshops to reflect and share the results (Documentation of results).
7. Identify empirical evidence for the conceptual development and recognize political implications, which will lead to improved practices and knowledge (Selection of learning) (AdA 2014b).

¹ **Guide 1:** Self-evaluation provided for the Management of rural Associative enterprises; **Guide 2:** Strengthening the socio-organizational processes; **Guide 3:** Strategic orientation with a focus on value chain; **Guide 4:** Development of business plans; **Guide 5:** Strengthening of services

Right now national independent learning alliances exist in Honduras, Peru and Nicaragua.

In Nicaragua, the NLA is a group of different NGOs, research organizations, and cooperatives of third level. The NLA completed three learning cycles (cycle one: 2008-2010; cycle two: 2010-2012 and cycle three: 2012-2013).

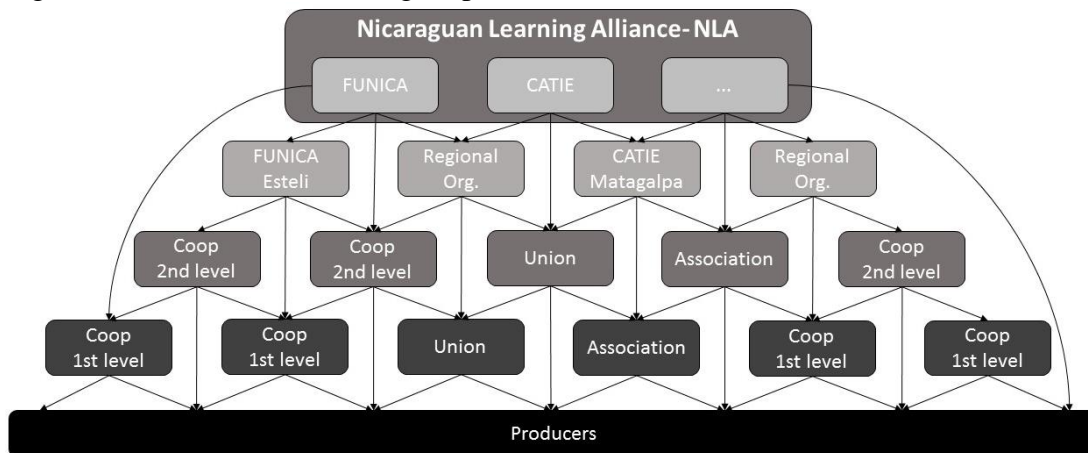
Most of the members are working in the areas of Matagalpa, Jinotega, Estelí, Madriz and Nueva Segovia. These are also the areas where most of the training has taken place.

The NLA-members form a working group in which every member is represented by a project manager. These representatives develop the guides and then teach their content to their respective provincial organizations. Provincial organizations teach the content to cooperatives of second level, unions or associations which are active in specific regions of the provinces. Cooperatives of second level are cooperatives grouping first-level cooperatives. These groups then use the guides to teach cooperatives of first level: cooperatives of producers mostly organized in villages and towns of rural areas. The cooperatives of first level replicate the learning process for their members: the producers (see Figure 1).

Depending on the network of connection, some levels may not be utilized for replication of knowledge. Some NLA members still use the guides to teach and train their partners outside of the learning cycles.

The partner organizations contributed USD \$341,740 to the development of learning cycles between 2008 and 2012. The NLA members also invested financial resources to directly support 77 organizations of farmers who participated in the process. The first learning cycle included 26 producer organizations and reached a total of 6,647 farming families involved in the production of coffee, cocoa, vegetables, corn, beans, plantains, roots and tubers, milk and honey. Women represented 30% of the participants and partners. CATIE presented 29 technicians and 24 leading producers with diplomas in Management of Rural Associative Enterprises.

Figure 1: Structure of knowledge replication within the NLA



(Source: Own graphic using own data)

The second and third learning-cycle involved another 51 producers' organizations, which represented approximately 12,700 families that produce coffee, cocoa, vegetables, corn, beans, dairy, honey, rice, banana, sugarcane, sesame and cashew participated.

The main lessons learned during the first cycle of the NLA was that the prioritization of a common topic of interest to all partner organizations and the development of a structured learning process around this issue is very important to give functionality to the initiative and generate commitment and confidence among partner organizations.

Prioritized learning issues to be developed under the NLA from 2013-2016 are a further development of the “strategic planning” guide and the ability to adapt more to the needs of the farmers. Furthermore it is planned to give regional platforms more responsibility to tackle the needs of the farmers that are unique to the respective regions. The NLA wants to strengthen its financial situation and develop guides for financial issues at the production level (AdA Nicaragua 2012). So the NLA has managed to reach more than ten thousand small farmers through its network of training partners. But how effective has this agribusiness training been?

Theoretical build-up of the conceptual framework

The conceptual framework for this study is a combination of three different approaches. One is the Structure-Conduct-Performance paradigm, another is the theory on new institutional economics, and the third approach is derived from marketing research.

Structure-Conduct-Performance (SCP) Paradigm

The Structure-Conduct-Performance Paradigm tries to model markets. It describes on the one hand the influence of structure variables such as demand, products and supply on conduct variables such as price, commercials and quality. The conduct variables, on the other hand, have influence on performance variables including different types of efficiency, technological improvements, full employment and equity (Cassey 2007, 3 f., 17).

New Institutional Economics

New institutional economics is based on the idea that institutions play a role in economic processes. While it uses neoclassical economics theory as a base, it expands the analysis to include formal and informal institutions, and the hidden costs of doing business within those institutions. Some of the main topics of this theory thus far include: methodological individualism, the maximizing theory of benefits, individual rationality, opportunistic behavior, the development of institutions, organizations, social networks and transaction costs (Richter and Furubotn 2003, 1 ff.).

Social networks explain the interactions between different actors in the forms of information exchange and communication. Typical exchanges in markets are transactions of goods and information. The connections between individuals can also be biological relations. These are regulated relations, for example those regulated by law, contracts or other formal tools (Richter and Furubotn 2003, 11).

Characterization of business relationships through marketing research

Marketing research is a broad concept and can be used in any business activity. Malhotra et al. (2008, 6 f.) explain marketing research as “the systematic and objective identification, collection, analysis and dissemination of information undertaken to improve managerial decision making related to the identification and solution of problems and opportunities in marketing.”

Traditionally, marketing and business management research set the focus on economic variables such as costs. However, in recent years marketing has begun to analyze other impacts and connections between value chain partners that are not measurable in monetary terms. Learning alliances and innovation platforms are a suitable object of study within this development because they are not only for the purpose of exchanging market information or doing business. Their objective is also to bring different stakeholders together to identify and ana-

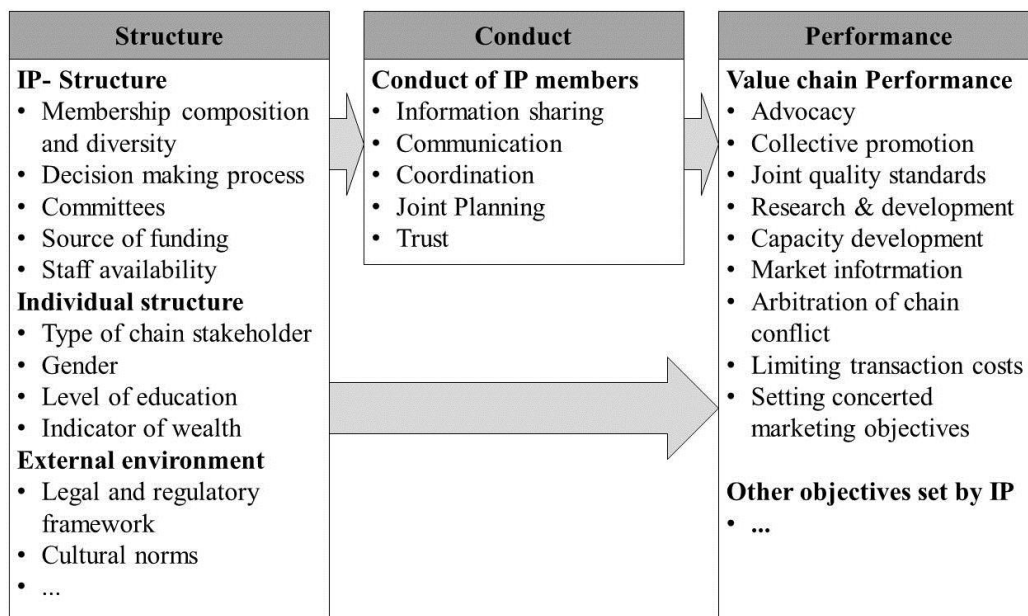
lyze common problems, which they then solve mainly through communication and information sharing (Cadilhon 2013, 5).

Conceptual framework

The overall logic of the conceptual framework is set by the Structure-Conduct-Performance Model although without using its variables and definition of each component. Rather, the variables used to measure structure, conduct and performance were developed from the literature on marketing research and business relationships. Transaction cost theory is taken into account by being aware of transactions which occur inside the SCP Model (see Figure 2) (Cadilhon 2013, 4 f.).

This study uses variables representing structure, conduct and performance to identify the linkage between these three pillars. The focus in this study is on trust as a conduct variable and capacity development as a performance variable (Cadilhon 2013, 4 f.).

Figure 2: Elements of the conceptual framework to evaluate innovation platforms



(Source: Cadilhon 2013, 8)

Elements characterizing conduct of IP members

Information sharing is one tool to improve the performance of an IP (Pali and Swaans 2013, 4). The purpose of information sharing is to generate new information and knowledge (Maru 2011, 1 f.). Communication is the base for every interaction and is based on perceiving, conveying and understanding information and ideas (Patzak and Rattay 2012, 253). Communication is necessary to avoid misunderstandings and to make the work more effective and efficient (Victor et al. 2013, 1 ff.). Coordination describes the collaborative work in a group aiming towards common interest in reaching a certain outcome or topic. It is a communication-system between IP members in which communication skills as well as management skills are necessary (Badibanga, Ragasa, and Ulimwengu 2013, 7 f.). Joint planning includes a joint analysis, joint definitions and a joint strategy among IP members. Planning regulates who is doing what at which point in time within the context of the IP. Joint planning is an ongoing process and has to be flexible in order to react to different situations (Wennink and Ochola 2011, 34).

Trust can be seen as a factor with regards to competence, process, characteristics and institutions, systems, technology or services. Trust is described by many researchers as a multifaceted concept dependent in each case on the local context. Trust can be observed in the decisions of participants (M. Laeequddin et al. 2010, 53, 56). There is no clear definition and measurement for trust as of now. Trust can also be a piece of equipment, an institution, ability or something else. In this sense, the competence of a person serves as an indicator for the trust in the trustor. Trust can be observed in the decision of the participants. Trust is a dyadic factor in a lot of cases. From a business perspective, trust is an expected outcome of a certain event or action (M. Laeequddin et al. 2010, 53 ff.).

Elements characterizing performance of value chains

Advocacy is mostly defined as an effect on policies, positions or programs of institutions like companies, networks, IPs and other organizations. The approach of advocacy is to make sure that everybody is heard and can freely express their views, concerns and opinions, as well as defend their rights and promote their responsibilities (Sharma, 1 ff.).

Value chain development describes the development of the different participants of a value chain from the producer until the consumer linked through products, information, finances and services (Kaplinsky and Morris 2000, 4 f.). Value chains also include external influences such as government regulations, research, financial institutions and extensions. The approach is to improve farmer's access to the market, and especially to market information (Birachi et al. 2013, 1 ff.).

To nurture smaller platforms is to support horizontal and vertical linkages of an IP in order to strengthen their position in bargaining, exchange of information, lower costs through common action or to get other common benefits (Tucker, Schut, and Klerkx 2013, 1 ff.).

The term capacity development is not set by a certain definition and has many different faces (Horton et al. 2003, 2; Ubels, Acquaye-Baddoo, and Fowler 2010, 11). The FAO defines capacity development as a "process whereby individuals, organizations and society as a whole unleash, strengthen, create, adapt and maintain capacity over time" (FAO 2010, 10). This definition includes social, political and technical aspects. After analyzing a variety of sources, a study concluded that "capacity development refers to approaches, strategies and methodologies used to improve performance at the individual, organizational, network/sector or broader system level" (Bolger 2000, 2). Other sources like Horton (2002) claim it to be more general, stating that the objective of capacity development is to foster the development of specific individuals or organizations. In an agricultural context capacity development is often in the form of training activities and workshops (Horton et al. 2003, 2, 6). Capacity development takes place in different dimensions or levels (Neely 2010, 40). This multidimensional aspect illustrates the inclusion of different actors (Hall 2007, 612).

Research design

Data collection

Data was collected in Nicaragua from NLA-members, their influenced partners, non-members and their influenced partners, as well as from different stakeholders also involved in the agribusiness sector such as universities and private companies. The data collection took place during three months of field work spanning July to September 2014 in the capital city of Managua, and in the regions of Matagalpa, Jinotega, Estelí, Madriz, Nueva Segovia, Masaya and Chinandega.

To collect qualitative data, key informant interviews and focus group discussions were held. Quantitative data and observations were gathered through individual interviews using a structured questionnaire.

Key informant interviews were used with the aim of gaining a more profound understanding through a less structured interview.

Focus group discussions followed two approaches. The first one was to ask specific questions that were important to the study. The other one was to observe the direction taken by the focus group discussion. Focus group participants were members of cooperatives of first level chosen according to their description and characteristics (e.g. membership constellation, partners and location).

The individual questionnaires collected structural data about the organization interviewed and used 53 Likert-Scales-Statements for the sections on conduct and performance. The respondents expressed their agreement with the statements given through the Likert scale (Coding: 1 = strongly disagree, 2 = disagree, 3 = undecided, 4 = agree, 5 = strongly agree, N/A= not applicable). During the individual questionnaires qualitative data from interviews was collected as well when possible (Landmann 2015).

Three focus group discussions with different groups of producers, key informant interviews and pretest of the individual questionnaires were held in the beginning, analyzed and the results were considered in the completion of the individual questionnaire.

After holding the first daily interviews organized through partners, contact was made with other cooperatives and organizations with a similar structure in the region. In total, 38 NLA-members or influenced partners and 52 members of other agribusiness development networks and organizations that were not influenced by the NLA were interviewed.

Towards the end of the data collection, focus group discussions with NLA influenced and non-influenced cooperatives were held to discuss unclear topics. In total data from six focus group discussions, 20 key informant interviews and 90 individual questionnaires were collected.

Data analysis

Graphical inspection and descriptive analysis of the structural data was done first. Following this step, the differences between NLA members and influenced groups as well as between the different levels inside the network of the agricultural sector were statistically compared to the reference group.

Trust and capacity development statements were reduced to a smaller number of factors using factor analysis, as well as to avoid multicollinearity due to potential interrelationships between statements. Reliability tests were carried out with all statements and afterwards with the calculated factors. The factors were also analyzed with values of Cronbach's Alpha, Kaiser-Meyer-Olkin (KMO) measurement and Bartlett's Test of Sphericity (Field 2009, 675). The acceptable factor loading in this study (population of 90) is 0.564 (Field 2009, 644).

After the determination and orthogonal VARIMAX rotation of the factors, the outcomes of the factor analysis were a reduced number of uncorrelated underlying factors representing groups of correlated statements that facilitate further empirical analysis (Field 2009, 644, 664 ff.). The next step after the factor analyses was a multiple linear regression with the factors developed from performance variables representing capacity development as the dependent variable, as well as other factors representing the trust component of the NLA members' conduct, and additional individual structure and conduct variables as independent variables.

To affirm the validity and robustness of the regression models diagnostic tests were used. The R-Square showed the overall fit of the model and the Analysis of variance (ANOVA) showed the statistical significance of each explanatory variable. To know the relevance and influence of each variable and factor inside the regression model the parameter estimates (Beta-values), significances and VIF values were analyzed (Field 2009, 206ff, 224).

Results

Structure elements

Coffee is the most produced crop for 41 farmers organizations represented, 33 say basic grains (beans, corn and rice) and 16 say others (cattle, milk or dairy, vegetable, honey, cocoa). 26 organizations focus on only one agricultural product, and the others also produce coffee, basic grains, cattle, milk or dairy, vegetables, honey or cocoa.

In total, 12 respondents represent a national organization (one NLA-member and 11 others), six represent regional organizations (three NLA-members and three others), two are cooperatives of third level (one NLA-member and one other), 14 are cooperatives of second level (seven NLA-partners and seven others) and 54 cooperatives of first level (26 NLA-partners and 28 others).

Of all respondents 29 said their partner is working at the national level, 21 said that they work with a cooperative of second level, 17 said they are working with a regional organization, seven with an international organization, six with a cooperative of third level and one with a cooperative of first level. 70 respondents said their organization is participating in more than one capacity development group.

Seven are functioning as input suppliers, 74 as producers, 69 as traders, 50 are also doing processing, seven are working as an NGO, three are research institutes or universities, three are funding agencies, two are working inside the government, 57 are working as a financial organization, 85 as service providers, and 12 are doing other activities like tourism as well. 57 organizations represent cooperatives, 14 associations, eight NGOs, five private companies, three represent the government, two organizations and one a public institution. The most important source of funding comes from the NGO (37 cases) followed by cash from operations generated (25 cases), credit provided by the private sector (11 cases), membership fees (10 cases), and seven are government funded.

Most of the organizations represent between 100 and 499 producers (27 organizations). 26 organizations represent less than 100 producers. Only 10 organizations represent more than 5,000 producers. The largest organization represents 50,000 producers. 69% of the producers represented through the organizations or institutions were male and 31% female. Three cooperatives interviewed consisted only of women, all the others were mixed cooperatives (Landmann 2015).

Regression analysis – Structure and conduct influencing performance

The regression presented in Table 1 explains the influence of structure and conduct on the capacity development factor “innovation”. This model includes three structure variables and eight conduct variables including two trust factors. Two structure variables, two trust statements and both trust factors show a significant impact on performance. The adjusted R-Square of this regression is 40.4% and the whole regression is statistically significant at a level inferior to zero percent. This shows that the regression itself represents 40.4% of the variance in the factor innovation and that it is significant.

The number of years working for the organization has a significance of 0.1% and a Beta-value of 0.294 which shows that the amount of time the interviewee works for an organization increases the factor innovation.

A connection of the organization with the NLA does not have a significant influence on the factor innovation. The position of the organization inside the network does have a significant influence (Sig.= 4.8%; Beta-value= -0.178). The base value is the national level and the bigger the number the more local the level of the organization. Being close to the farmers' level has a negative significant influence on the innovation factor than being close to the national level. The statement from the joint planning section: "We plan our activities together with the NLA/ our organization according to our production potential and customer demand" has a negative significant influence (Sig.= 2.6%; Beta-value= -0.224). This means if the organizations strongly agree on this statement the factor innovation decreases more than if they strongly disagree. However, the joint planning statement "Joint planning of activities with the NLA/ our organization has improved in the last six years" (Sig.= 0.1%; Beta-value= 0.378) shows improvement of joint planning with the network partner in the last six years. If the organizations strongly agree on this statement, the factor innovation is bigger than if they strongly disagree.

Both trust-factors, "trustful relationships" (Sig.= 1.1%; Beta-value= 0.248) and "trustful contracts" (Sig.= 1.3%; Beta-value= 0.231) have a positive significant influence on the innovation factor. If the factor trustful relationship is present, the factor innovation increases and if the factor trustful relationship is present, the innovation factor increases as well.

Table 1: Regression analysis with the innovation factor

Dependent Variable: Factor: Innovation	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
	B	Std. Error	Beta			Tolerance	VIF
(Constant)	-1.709	.907		-1.883	.064		
Years working for the organization* ²	.044	.013	.294	3.381	.001	.914	1.094
Connection with NLA ³	.249	.177	.124	1.405	.164	.885	1.129
Position of the Organization inside the network* ⁴	-.131	.065	-.178	-2.010	.048	.883	1.132
1. We usually share information about production with other stakeholders. ⁵	.172	.117	.130	1.467	.147	.881	1.135
11. The NLA/ our organization exchange information about their on-going activities with us. ⁵	.208	.123	.167	1.690	.095	.711	1.407
13. We plan our activities together with the NLA/ our organization according to our production potential and customer demand.* ⁵	-.260	.115	-.224	-2.265	.026	.707	1.415
14. Our viewpoints are taken into account by the NLA/ our organization when they plan their activities. ⁵	.028	.142	.022	.201	.842	.558	1.791
15. Joint planning of activities with the NLA/ our organization has improved in the last six years.* ⁵	.447	.126	.378	3.541	.001	.607	1.646
10. We prefer to have long term relationships. ⁵	-.174	.125	-.127	-1.387	.169	.828	1.208
Factor: Trustful relationships*	.252	.096	.248	2.613	.011	.771	1.298
Factor: Trustful Contracts*	.230	.091	.231	2.532	.013	.834	1.200

*. Variables with significant influence on the Factor 5: Innovation

R-Square= 0.480; Adjusted R-Square= .404; Significance= 0.000; level of significance $p < 0.05$

(Source: Own data collection and analysis)

² Scale: Years in numbers

³ Scale: 0= No; 1= Yes

⁴ Scale: 1= National organization; 2= Regional organization; 3= Cooperative 3rd level; 4= Cooperative 2nd level; 5= Cooperative 1st level

⁵ Scale: 1= strongly disagree; 2= disagree; 3= undecided; 4= agree; 5= strongly agree

Qualitative data

The old structures of cooperatives and the different levels within the cooperative network are still present and an important factor in agribusiness development. The fact that the NGOs are the most important source of income for most of the respondents was also noticeable in the field. Capacity training is also provided by governmental institutions, country schools, as well as by private companies or other institutions. Every key stakeholder interviewed was practicing capacity development in the field.

The fact that 70 of 90 organizations are supported by more than one organization can also be seen in the qualitative data. Furthermore, sometimes it was seen as a problem because there could exist a lack of loyalty to the organization.

During the focus group discussions the farmers said that they trust more in the NGOs than in the government, which they linked to the fulfillment of promises and financial support. Most stakeholders do not work together with the governmental institutions because they did neither get feedback nor response or because of a lack of transparency from the governmental side.

One technician from a governmental institution (who requested to stay anonymous) said that the guides of the NLA trainings and the content itself is very good, but that the way it is taught to the farmers is not very successful. This statement was confirmed during the focus group discussions and some individual questionnaires.

The focus group discussions and the individual questionnaires revealed a recommendation to share information and experience with others using the same methods to optimize the method and increase the benefits of the participants.

Discussion

Is the NLA really a learning alliances?

The main aim of learning alliances and innovation platforms is to bring different stakeholders together and create a platform of trust where information can be shared and communication is used for the development of common approaches and actions (Homann-Kee Tui et al. 2013). Even the NLA is open for the public and private sector as Lorio, Gottret, and Santamaría (2010) showed. Nevertheless, the members of the NLA consist only of NGOs or research organizations.

The NLA is part of the Latin American regional Learning Alliance, where the main goals are set in conjunction with the national learning alliances such as the NLA. The NLA-members teach the guides to their local partners. Members then use whatever method they consider as most suitable during the trainings of the guides. The NLA uses a downstream structure for capacity trainings, in which feedback is collected in order to maximize efficiency when teaching the guides. After this process the members and their partners are free to continue to use the method (Lundy and Gottret 2005; AdA 2014b). This means that modifications of guides are not necessarily communicated to the NLA.

Because of the membership constellation which only includes NGOs and research organizations, and the down streaming structure of the information shared without consultation of the final beneficiaries in the planning of training activities, the NLA does not fit well in the definition of a learning alliance (Lundy and Gottret 2005; AdA 2014b; Pali and Swaans 2013, 2 f.).

If we use the definition of Lundy and Gottret (2005) the NLA is seen as an learning alliance. Its main goal on the one hand is to develop the local economy in the rural agricultural sector

in Nicaragua. On the other hand, the NLA is also research oriented because the NLA-members and CIAT attempt to get as much information as possible out of the NLA to improve their method and make use of the results in their daily work inside and outside of Nicaragua. Following Nederlof et al (2013) the NLA is a development and research oriented platform.

Efficiency of the NLA's capacity development method

The quantitative and qualitative data show on the one hand that the guides and the content itself are very good. On the other hand the qualitative data show that the way the guides are taught to the farmers is not very successful because it is not adjusted to the regional circumstances. It seems that strategies of some NLA members of adapting to the local environment is successful, and is a response to some criticisms from the final beneficiaries. On the other hand, it makes it difficult to trace the success of the NLA guides because if one member changes the method and just uses the information on their own, it is no longer helpful for the other members. Furthermore, the approach of the learning alliances to build up a platform to share information and learn from each other is then no longer efficient and sustainable. Opportunities for communication and meetings to share and exchange information are also missed by some cooperatives. Lundy, Gottret, and Ashby (2005, 6) describe an approach in the method of the learning alliance to create networks at the micro, meso and macro levels. These networks do not exist in Nicaragua and would be the answer to the recommendations and criticisms. The NLA itself already named it as one weakness which is included in the changes that are planned for the next years (AdA Nicaragua 2012).

Another weakness of the NLA is the data collected during the last years by NLA members through the auto-evaluation of the training guides. This data is not complete and too weak to analyze and get clear recommendations out of it.

Influence of the local background and environment

Nicaragua has a turbulent history that is still present in the way people think and act. Therefore, cooperatives are geographically widely spread (Laforteza and Consorzio 2009). The private, public and NGO sector is familiar with this structure and have adapted their methods to it. Thus, the private sector trains the farmers by working with their cooperatives and tries to improve the agricultural production of their suppliers. The governmental sector is represented in the same way throughout the country. The government and the governmental institutions involved in the agricultural sector are not very respected, as well as they are not seen as the most favorable partners by cooperatives and farmers. The farmers trust NGOs and the private sector more because they are more reliable and have more financial resources that can be given to the cooperatives. Even though the governmental organizations also teach similar topics to the farmers in field schools, these organizations are not very open to information sharing and creating of networks (INTA 2011). From the perspective of other stakeholders in the value chain the motivation to work with government is very low.

Because of the structures and influences left over from the previous socialist regime in the country, the agricultural producers and cooperatives are not very familiar with the term value chain or the idea of the development of value chains. A lot of producers and cooperatives are more focused on the cooperative structure than on the value chain structure.

Importance of financial support to stay a credible partner

Financial support for the cooperatives and interviewed organizations is a very important topic. Out of 90 organizations 37 named NGOs as the most important source of funding. A lot of producers are still used to the old ways of obtaining aid, but new ways such as learning alli-

ances are getting more important every year. A lot of cooperatives see financial support as a basic need that has to be accompanied by capacity development to be successful. This has to be seen critically because financial support is not generally indefinite. Financial support is necessary, but the main aim is to have successful producers that are not dependent on financial support of NGOs, as is dictated in the NLA guides (Lundy and Gottret 2005).

Validation of the conceptual framework

The conceptual framework by Cadilhon (2013) was developed to evaluate the impact of learning alliances, seen as multistakeholder systems where discussions lead to approve and set common goals, on the development of agricultural value chains, but as discussed above, the NLA is not really a learning alliance. This fact made the adaption of the conceptual framework to the environment in the field necessary. In this study the Nicaraguan backdrop as well has a strong influence on this conceptual framework; this was taken into consideration as much as possible.

The variables of conduct and their way of measurement are selected by Cadilhon (2013). He justified the choice of the variables and they fit well in the Nicaraguan context. The trust variable is a typical example that can be measured with a Likert scale because trust is complex, multifaceted and difficult to measure (M. Laeequddin et al. 2010, 53 f.). The data collected shows that trust is an important factor in the agricultural sector.

The performance variables were tested by previous studies related to agribusiness development in other countries and capacity development was chosen because it is the main goal of the learning alliance. Many scientists also define capacity development, but the basic idea regarding capacity is always the same. The performance variables as well as the conduct ones were adapted to the NLA.

In the conduct and performance section most of the data is quantitative in form of Likert scales. With the Likert scale it is not possible to individualize differences and the distances between the numbers are always the same. Even though a respondent could express his or her opinion more exactly it cannot be captured by the Likert scale (Barnette 2001).

Additional background information about the structure and performance in the form of economic or financial data are too weak to support the conceptual framework or missing. One example is the annual income of the organization interviewed. Most of the respondents could not answer this question because it was not known or because they do not measure and analyze it.

The regression model represents 40% of the variance observed in the factor innovation. This shows us that the validity of the regression is not very big. All B-values are between one and minus one with only one exception. Respecting the conditions of the equation model meant that the influence of the independent variable on the dependent variable ends up being relatively small (Field 2009, 238).

The most important information visible in the regression model is that the variable connection with the NLA does not have a significant influence on innovation. Another outcome of this regression model is that the two trust factors trustful relationships as well as trustful contracts have both a positive significant influence on the innovation factor.

The regression proves that structure and conduct has an influence on the performance. Furthermore the influence of trust on the capacity development factor innovation is validated following Cadilhon's (2013) hypothesis.

Despite the weaknesses of the regression model presented in this study the regression models help to answer the research questions about the NLA and the conceptual framework used.

Conclusion and recommendations

This study was carried out in order to test the conceptual framework developed by Cadilhon (2013) and to observe if the NLA is successful in capacity development. This study is important because although learning alliances are common, tools to evaluate them are rare. The Nicaraguan Learning Alliance was chosen for this study because it was created in 2008 and already finished three learning cycles (AdA 2014a).

By definition, learning alliances consist of different stakeholders participating in value chains. The members of the NLA are ten, all NGOs and local research institutions. Thus, the NLA is not a learning alliance in the narrow sense (Homann-Kee Tui et al. 2013, 1). However, in this study the NLA was treated as a learning alliance, as defined by Nederlof, because the “integrated research for development-approach” constitutes the base of the NLA (Nederlof, Wongtschowski, and van der Lee 2011, 19 f.). Its major goal is to develop capacities of the farmers through five guides about business topics by knowledge replication.

The cooperative structure in Nicaragua has a long tradition and is well established. Because of the strong cooperative-oriented structure, agricultural stakeholders and producers are not used to organized value chains and markets. This is due to a lack of knowledge, missing information and education about agricultural business including value chains, markets and finances. The NLA, governmental organizations, private sector and other institutes are trying to optimize the situation through capacity trainings. However every stakeholder follows their own approaches and cooperations and networks between different types of stakeholder are rare.

No statistically significant difference between the NLA members, their influenced group and the reference group can be observed. However, it is visible that the NLA as well as the other stakeholders have been successful in their attempts at capacity development. The trainings undertaken by every stakeholder are filling the gap in Nicaraguan farmers’ knowledge about business and markets.

Especially the qualitative data shows that the NLA guides are not adjusted well to the regional context and that the participating organizations would like to have more exchange about their experience and progress with other organizations. Questionnaires used in this study are based on Likert-scale statements which on the one hand make it possible to collect a big amount of comparable quantitative data. On the other hand, Likert scales are not capturing hard facts (e.g. financial and economic figures), which decreases the convincing power of this research’s implications.

The selection of the variables in general and especially trust and capacity development are very important factors in the case of the NLA.

Furthermore, the influence between the structure and conduct is observable and shows, for example, that the NGOs as financial sources of organizations have a wide significant influence on the factor trustful relationships. The influence between structure and conduct on performance is visible as well. The results also show that the factors trustful relationships and trustful contracts have a positive influence on the innovation factor developed out of capacity development variables. However, the linear multiple regression only explains less than 50% of variation observed in the innovation factor.

Recommendations are divided into two groups. One group is about the NLA itself and the other group about the conceptual framework used.

For the NLA and all the other stakeholders working in the sector of capacity development one recommendation is to try to open the network for other types of stakeholders, even

though the government does not seem to show interest in such cooperation. This could make the method of training guides the stakeholders are using more efficient, sustainable and successful. The networks in general seem to be the right way for the agricultural structure in Nicaragua, but the interactions can be improved.

Another recommendation for the NLA is to adjust the guides used in the trainings to the regional context and to create more regional platforms where participating organizations can have more exchange with other organizations.

The questionnaires used for the data collection of the conceptual framework should include financial and business figures to have better and more robust data for direct comparison. Future research should use data collected over a longer period of time to have a better impression of how the learning alliance works.

This data could also be collected through successful methods like the auto evaluation of the NLA. This would make it easier to make adjustments in the method and the conceptual framework. The data analysis shows that factor analysis and regression have their limitations with this data set. The use of a different method like the SEM (Structure-Equation Model) could help to make better use of the data and lead to better recommendations.

Overall, the NLA method is working well and reaches the goals it has set itself. In addition, the conceptual framework used in this study helps to break complex data down and to understand the process of the NLA. Both the NLA and the conceptual framework also have many weaknesses, which mostly are already identified and being addressed.

References

- AdA. 2014a. "Alianza de Aprendizaje." Accessed November 21, 2014. <http://www.alianzasdeaprendizaje.org/portal/index.php>.
- . 2014b. "Alianza de Aprendizaje- Metodologías: Ciclos de Aprendizaje." Accessed November 21, 2014. <http://www.alianzasdeaprendizaje.org/portal/metodologia/24-ciclos-de-aprendizaje>.
- AdA Nicaragua. 2012. "Alianza de Aprendizaje Nicaragua: Plan estratégico 2013-2016." *AdA Nicaragua- Alianza de Aprendizaje Nicaragua*.
- Badibanga, Thaddee, Catherine Ragasa, and John Ulimwengu. 2013. "Assessing the Effectiveness of Multistakeholder Platforms: Agricultural and Rural Management Councils in the Democratic Republic of the Congo." *IFPRI- International Food Policy Research Institute*. Accessed December 03, 2014.
- Barnette, J. Jackson. 2001. "Practical Measurement Issues Associated with Data from Likert Scales." *American Public Health Association*.
- Birachi, Eliud, Andre van Rooyen, Hubert Some, Felisberto Maute, Jo Cadilhon, Adewale Adekunle, and Kees Swaans. 2013. "Innovation platforms for agricultural value chain development." *Innovation platforms practice brief 6*. Accessed May 29, 2014.
- Bolger, Joe. 2000. "Capacity Development." *CIDA, Policy Branch Vol. 1, No. 1*. http://www.hiproweb.org/fileadmin/cdroms/Biblio_Renforcement/documents/Chapter-1/Chap1Doc1.pdf. Accessed November 23, 2014.
- Cadilhon, Jean-Joseph. 2013. *A conceptual framework to evaluate the impact of innovation platforms on agrifood value chains development*. Ghent. Accessed July 17, 2014.

- Cassey, Lee. 2007. "SCP NEIO and Beyond." *ICSEAD Working Paper Series 2007-05*. Accessed December 04, 2014.
- FAO. 2010. *Enhancing FAO's practices for supporting capacity development of member countries*: FAO- Food and Agriculture Organization of the United Nations. Accessed November 24, 2014.
- FAOSTAT. 2014. "Nicaragua." Accessed February 12, 2014. http://faostat.fao.org/CountryProfiles/Country_Profile/Direct.aspx?lang=en&area=157.
- Field, Andy P. 2009. *Discovering statistics using SPSS*. 3rd ed. Introducing statistical methods. Los Angeles [i.e. Thousand Oaks, Calif.], London: SAGE Publications.
- Hall, Andy. 2007. "Challenges to Strengthening Agricultural Innovation Systems: Where Do We Go From Here?" *United Nations University- UNU-MERIT*. <http://arno.unimaas.nl/show.cgi?fid=9401>. Accessed November 23, 2014.
- Homann-Kee Tui, Sabine, Adewale Adekunle, Mark Lundy, Josephine Tucker, Eliud Birachi, Marc Schut, Laurens Klerkx et al. 2013. "What are innovation platforms?" *Innovation platforms practice brief 1*. Accessed April 21, 2014.
- Horton, Douglas, Anastasia Alexaki, Samuel Bennett-Lartey, Kim Noële Brice, Dindo Campilan, Fred Carden, José de Souza Silva et al. 2003. *Evaluating capacity development: Experiences from research and development organizations around the world*. Hague, Ottawa, ON, Wageningen, the Netherlands: International Service for National Agricultural Research; International Development Research Centre; ACP-EU Technical Centre for Agricultural and Rural Cooperation. http://books.google.co.ke/books?hl=de&lr=&id=IroqdhQd0goC&oi=fnd&pg=PR5&dq=capacity+development&ots=7BgHiHHe_n&sig=8IKTIOMu_c18-eSeknnrboU7kkA&redir_esc=y#v=onepage&q=capacity%20development&f=false.
- INTA. 2011. "GUÍA METODOLÓGICA DE ESCUELAS DE CAMPO PARA FACILITADORES Y FACILITADORAS EN EL PROCESO DE EXTENSIÓN AGROPECUARIA." *INTA- Instituto Nicaragüense de Tecnología Agropecuaria*. Accessed December 07, 2014.
- Kaplinsky, Raphael, and Mike Morris. 2000. *A Handbook for Value Chain Research*. Brighton. Accessed January 20, 2015. <http://www.ids.ac.uk/ids/global/pdfs/VchNov01.pdf>.
- Klerkx, Laurens, Cees Leeuwis, and Barbara van Mierlo. 2012. "Evolution of systems approaches to agricultural innovation: concepts, analysis and interventions." In *Farming systems research into the 21st century: The new dynamic*, edited by Ika Darnhofer, David P. Gibbon, and Benoît Dedieu, 457–83. Dordrecht, New York: Springer.
- Laequddin, Mohammed, B.S. Sahay, Vinita Sahay, and K. Abdul Waheed. 2010. "Measuring trust in supply chain partners relationships." *Measuring Business Excellence* 14 (3): 53–69. Accessed November 22, 2014.
- Laforteza, Daniela, and Etimos S.C. Consorzio. 2009. *BCIE_2009_Nicaragua_Inventario de las cooperativas productivas*. Accessed December 02, 2014.
- Landmann, Dirk. 2015. "The influence of trust in the Nicaraguan Learning Alliance on capacity development of members and other influenced groups." Accessed April 27, 2015. https://cgspace.cgiar.org/bitstream/handle/10568/56689/Masterthesis_D.Landmann.pdf?sequence=1.
- Lorio, Margarita, Maria Veronica Gottret, and Liana Santamaría. 2010. *Cosechando los Frutos del Cambio Organizacional: 23 organizaciones que con esfuerzo y compromiso traba-*

- jan para mejorar el nivel de vida de sus comunidades: Centro Agronómico Tropical de Investigación y Enseñanza (CATIE).* Accessed December 07, 2014.
- Lundy, Mark, and María Verónica Gottret. 2005. "Learning Alliances: An Approach for Building Multi-stakeholder Innovation Systems." Accessed May 13, 2014.
- Lundy, Mark, Maria Veronica Gottret, and Jacqueline Ashby. 2005. "Learning alliances: An approach for building multistakeholder innovation systems." *ILAC Brief* 8. Accessed December 17, 2014.
- Malhotra, Naresh K., John Hall, Mike Shaw, and Peter P. Oppenheim. 2008. *Essentials of marketing research: An applied orientation*. 2nd ed. Frenchs Forest, N.S.W. Pearson Education Australia.
- Maru, Ajit. 2011. "A Framework for Data and Information sharing for Agricultural Research for Development: A perspective for its development." *FAO Food and Agriculture Organization of the United Nations*. Accessed December 03, 2014.
- Nederlof, Suzanne, Mariana Wongtschowski, and Femke van der Lee, eds. 2011. *Putting heads together: Agricultural innovation platforms in practice*. Bulletin 396: Development, Policy & Practice: KIT Publishes. Accessed November 21, 2014. http://www.kit.nl/sed/wp-content/uploads/publications/1953_Putting%20heads%20together%20LR.pdf.
- Neely, Constance L. 2010. "Capacity Development for Environmental Management in the Agricultural Sector in Developing Countries." *OECD Environment Working Papers* 26.
- Pali, Pamela, and Kees Swaans. 2013. *Guidelines for innovation platforms: Facilitation, monitoring and evaluation*. ILRI Manual 8. Nairobi, Kenya: International Livestock Research Institute (ILRI). Accessed November 21, 2014. <https://cgspace.cgiar.org/bitstream/handle/10568/27871/ILRImanual8.pdf?sequence=4>.
- Patzak, Gerold, and Günter Rattay. 2012. *Project management: Guideline for the management of projects, project portfolios, programs and project-oriented companies*. Wien: Linde.
- Richter, Rudolf, and Eirik G. Furubotn. 2003. *Neue Institutionenökonomik: Eine Einführung und kritische Würdigung*. 3., überarb. und erw. Aufl. Neue ökonomische Grundrisse. Tübingen: Mohr Siebeck.
- Sharma, Ritu R. "An Introduction to Advocacy." <http://ictlogy.net/bibliography/reports/projects.php?idp=1105>. Accessed December 08, 2014.
- Tenywa, M.M., KPC Rao, J.B. Tukahirwa, R. Buruchara, A.A. Adekunle, J. Mugabe, C. Wanjiku et al. 2011. "Agricultural Innovation Platform As a Tool for Development Oriented Research: Lessons and Challenges in the Formation and Operationalisation." *Learning Publics Journal of Agriculture and Environmental Studies* 2: 117–46. Accessed November 28, 2014.
- The World Bank Group. 2012. "The International Development Association and International Finance Corporation: Country Partnership Strategy (FY2013-2017) For The Republic of Nicaragua." (Report No: 69231-NI). http://www-wds.worldbank.org/external/default/WDSContentServer/WDSP/IB/2012/10/24/000386194_20121024011712/Rendered/PDF/692310CAS0P1280Official0Use0Only090.pdf. Accessed December 02, 2014.

- . 2014a. “Nicaragua.” Accessed December 02, 2014.
<http://www.worldbank.org/en/country/nicaragua>.
- . 2014b. “Nicaragua: Nicaragua Overview.” Accessed December 02, 2014.
<http://www.worldbank.org/en/country/nicaragua/overview#1>.
- Tucker, Josephine, Marc Schut, and Laurens Klerkx. 2013. “Linking action at different levels through innovation platforms.” *Innovation platforms practice brief* 9.
<https://cgspace.cgiar.org/handle/10568/34163>. Accessed August 12, 2014.
- Ubels, Jan, Naa-Aku Acquaye-Baddoo, and Alan Fowler, eds. 2010. *Capacity development in practice*. London, Washington, DC: Earthscan. Accessed November 24, 2014.
<http%3A//www.worldcat.org/oclc/669497834>.
- Victor, Michael, Peter Ballantyne, Ewen Le Borgne, and Zelalem Lema. 2013. “Communication in innovation platforms.” *Innovation platforms practice brief* 7. Accessed December 03, 2014.
- Watson, David. 2010. “Improving on Results: Combining the ‘Best of Two Worlds’ in Monitoring and Evaluation of Capacity Development.” In Ubels, Acquaye-Baddoo, and Fowler, *Capacity development in practice*, 239–49.
- Wennink, B., and W. Ochola. 2011. “Designing innovation platforms.” In Nederlof, Wongtschowski, and van der Lee, *Putting heads together*, 30–42.