

Integração Vertical na Indústria de Aves: Por que Diferentes Estruturas de Governança?

Vertical Integration in the Poultry Industry: Why Different Governance Structures?

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Resumo: A integração vertical e a coordenação vertical são termos usados para descrever a indústria avícola. Uma estratégia de integração pode ser descrito como complexo com muitos parâmetros diferentes no jogo. Um dos principais argumentos para a integração vertical na indústria avícola é o argumento econômico - escala e margem de controle. Quando olhamos para a indústria o que encontramos lá são relativamente grandes variações de integração vertical total para organização baseado no mercado. As grandes variações tornam difícil ver como você pode promover argumentos econômicos consistentes como justificativa para decisões. A Teoria Econômica Institucional reconhece, contudo, que as decisões possam ser influenciada pelo ambiente institucional. As instituições são essencialmente regras de conduta, e como tal, deve de alguma forma ser possível prever as decisões, se você tiver um bom conhecimento das principais instituições. As características culturais nacionais ou regionais representam a este respeito uma interessante instituição. Neste artigo vamos discutir a cultura como uma possível explicação para as variações no grau de integração vertical na indústria avícola.

Palavras-Chave: Integração vertical; Estrutura de governança.

Abstract: Vertical integration and vertical coordination are terms used to describe the poultry industry. An integration strategy is described as complex with many different parameters in play. A major argument for vertical integration in the poultry industry is the economic argument - scale and margin control. When we look into the industry we find there are relatively large variations from total vertical integration to market based organization. The large variations make it difficult to see how you can promote consistent economic arguments as justification for decisions. Institutional economic theory acknowledges, however, that decisions can be influenced by the institutional environment. Institutions are essentially rules of conduct, and as such it should to some extent be possible to predict the decisions, if you have good knowledge of the main institutions. National or regional cultural characteristics represent in this respect an interesting institution. In this article we will discuss culture as a possible explanation for the variations in degree of vertical integration in the poultry industry.

Keywords: Vertical Integration; Governance Structures.

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Introduction

"The poultry industry is characterized in most countries by a high level of vertical coordination ..." (HENRY and ROTHWELL, 1995:1). From North American broiler industry, we see that "Integrators usually own hatcheries, feed mills, slaughter plants, and further processing plants-that is, they may be vertically integrated into all stages except for broiler production, where they rely on networks of growers assembled through production contracts "(Macdonald, 2008:3). In Norway the situation is different, with limited coordination between the various stages in the value chain (Andersen, Skinnarland and Tveterås, 2008). Kuwait operates with major integrated companies (Al-NASSER, 2006). Denmark has a structure similar to the Norwegian, while in Brazil there appears to be a large variation in the degree of vertical integration. According to Silva, Nogueira and Saes (2005) the Brazilian poultry industry varies between vertical integration at one extreme through partnership contracts and informal agreements, to the use of the spot market at the other extreme. In Parana, which represents the most modern part of the industry in Brazil where significant portions of the production are exported, the partnership

agreements dominate. Silva et al (2005) set up an explanation for the differences in organizational form based on the transaction cost theoretical analysis, but end up explaining the difference as a question of strategic choice. When one is unable to explain the companies' different choice from a cost perspective, which is the core of transaction cost theory; it is interesting and requires further investigation.

I have a basic transaction cost approach when I analyze governance structures in the poultry industry. It is interesting though when through literature studies and empirical observations you can see there is considerable variation in the choices made, and when those differences appear to be of national or regional character. It may be appropriate to extend the analytical approach by exploring one of the openings in institutional economic theory: that decision regarding institutional arrangements is made within the context of specific institutional environment (WILLIAMSON 1990, WILLIAMSON 2000). The institutional arrangement defined by Davis and North (1971) as "*arrangement between economic units that governs the way in which these units can cooperate and/or compete. ... The arrangement may either be a formal or an informal one, and it may be temporary or long-lived. It must ... provide a structure within which its members can cooperate to obtain some added income that is not available outside the structure*" (p.7). Institutional environment is defined then as "the set of fundamental political, social and legal ground rules that establishes the basis for production, exchange and distribution" (p.6). All elements, political, legal and cultural are of course of interest, as it is often the case that businesses are driven to adapt to the society they are a part of to gain legitimacy. In this article we are particularly interested in the cultural aspect. The culture in many ways represents a strong force keeping society together, and as a major force in forming individuals that are part of society. When important decisions are to be made, where there is room for discretion, it is not unnatural to think that the judgment is influenced by the cultural context you are in. A study by Diez-Vial and Alvarez-Suescon (2011) regarding vertical integration in Spanish food production indicates that the geographic proximity between different enterprises in the supply chain can help reduce pressure on vertical integration, this as a result of belonging to the same local community and by sharing social and political value. When business adapts to established institutions it is assumed that it contributes to its legitimacy and survival (cf. e.g. MEYER and ROWAN, 1977, and CAMPBELL, 2004). Institutions thus contribute with information about action opportunities and rewards to participants (Nielsen 2005). From institutional theory, we see that "the formal structures of many organizations in postindustrial society dramatically reflect the myths of their institutional environments instead of the demands of their work activities" (MEYER and ROWAN, 1977:341).

The purpose of the article is to discuss the importance of institutional environments in relation to decisions about degree of vertical integration within the poultry industry. In the next chapter we present an insight into the rationality of the transaction cost theory. In chapter three we will provide a short general picture of the poultry industry. In the fourth chapter we present the main arguments behind decisions of vertical integration from the cases included in our study. The fifth chapter discusses the implications of the empirical findings. In the last chapter we summarize the argument.

2. Rationality in the Transaction Cost Theory

To get started, it is interesting to see what we understand by vertical integration, and what represents a reasonable justification for decisions behind vertical integration.

What we are to understand by vertical integration is to some extent discussed in the literature (see e.g. WILLIAMSON, 1971, 1975, GROSSMANN and HART, 1986, BALAKRISHNAN and WERNERFELT, 1986, PERRY, 1989, JOSKOW, 1985 and 2005). The predominant view is that vertical integration represents one extreme of an organizational continuum, ranging from vertical integration to the spot market; *"inherent in the notion of vertical integration is the elimination of contractual or market exchanges"* (PERRY, 1989:185). Furthermore, most agree that vertical integration means that the entity has ownership to the means of production, and thus has the power to make decisions about investment, employment, production and distribution. Grossman and Hart (1986) do not distinguish between ownership and control in one of their definitions of the enterprise, thus pushing the limits of the idea of vertical integration.

In reality it might be that what is described as a vertically integrated chain of production, combines solutions that involve ownership and contractual control – see Perry (1989) who writes that: *"a firm can be described as vertically integrated if it encompasses two single-out-put production processes..."* (p. 185).

Discussions on the foundation of vertical integration go back to Coase (1937) where the costs associated with the use of the market were on the agenda. In an assessment of whether to use the market or the hierarchy Williamson (1971) states that vertical integration will provide access to special incentives, control instruments and structural advantages. In the hierarchy you will have access to incentives that make it easier to deal with potential opportunism. Regarding the aspect of control, vertical integration provides you with constitutional authority, easy access to decision data and easier access to dispute resolution mechanisms. To be in the same structure can be helpful in facilitating communication, assuming that the actors have the same type of training and experience.

On the question of choosing one or the other of the different governance structures Williamson (1979) suggests we have a closer look into three dimensions: Level of transaction-specific investments, transaction frequency and uncertainty. Transaction-specific investments are understood as *"durable investments that are undertaken in support of particular transactions"* (WILLIAMSON, 1987:55). Although not explicitly stated, it must be reasonable to assume that the term investment also includes costs related to the maintenance of the investment. Transaction frequency is of course related to the number of transactions within a given time. Uncertainty is linked to various factors such as technological development, consumer behavior, and incidents. Furthermore, it is linked to behavioral uncertainty (WILLIAMSON, 1975). Peter Tamin (1979) is a central source for Williamson's discussion of behavioral uncertainty. Tamin says that within different contexts we should anticipate different behavior like instrumental, hierarchical or traditional behavior. In transaction cost theory the main behavioral focus is on opportunistic behavior where actors are excessively busy pursuing their own interests. How much you should fear opportunistic behavior is debated and Das (2004) says that the market in the long run will eliminate actors who are known to act opportunistically. The strong focus on opportunism in the transaction cost theory is well in line with what is described as the fundamental principle in economic theory,

namely that actors are primarily concerned with their own interests (SEN, 1977). In the theory the combination of high transaction frequency, transaction specific investments and uncertainty should lead to vertical integration. When transaction frequency is low, no transaction-specific investments are made and uncertainty is low, the market solution is to be preferred.

The core argument in the transaction cost theory when you are assessing the governance structure is related to estimating costs of a few key parameters. Some of the costs such as investment costs, transportation and the like, are relatively easy to calculate. When you are to calculate costs based on assumptions on human behavior it becomes more complex. In this type of cost estimates, which are central in transaction cost theory, you would have to make assessments on how you think about how different processes such as negotiation, conflict resolution and communication take place. The key is to determine what type of behavior you think is most likely to occur. New institutional economic theory is in many ways saying we should expect actors to be psychological egoists, in which case the costs and risks will be higher than if the actors behave altruistically. Besides affecting the level of costs, the behavioral assumption can have direct (independent) influence on the decision regarding what kind of governance structure you should choose. The argument is illustrated in a simple model – cf. Figure 01.

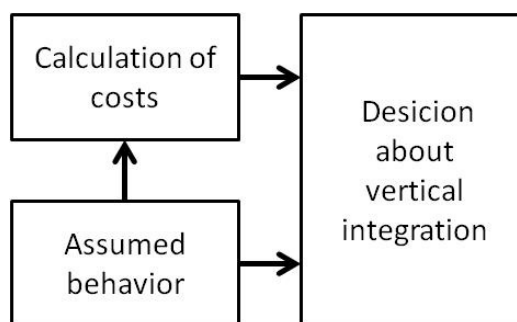


Figure 01 - Vertical integration – classic decision

The fascinating thing with transaction cost theory is that you consciously choose to ignore the parameter that can help to describe the community where the business is established – the embeddedness parameter (WILLIAMSON, 1998). Through that parameter you can gain further understanding of the traditions, norms, religion, informal institutions that apply. This is clearly a much more difficult approach than relying on a simple behavioral assumption, but on the other hand, it can contribute to a more realistic understanding of the challenges.

3. The Poultry Industry

In the introduction we have seen that there is a relatively large variation in relation to the degree of vertical integration in the poultry industry. The value chain in the industry includes several independent stages of production (see Figure 02).

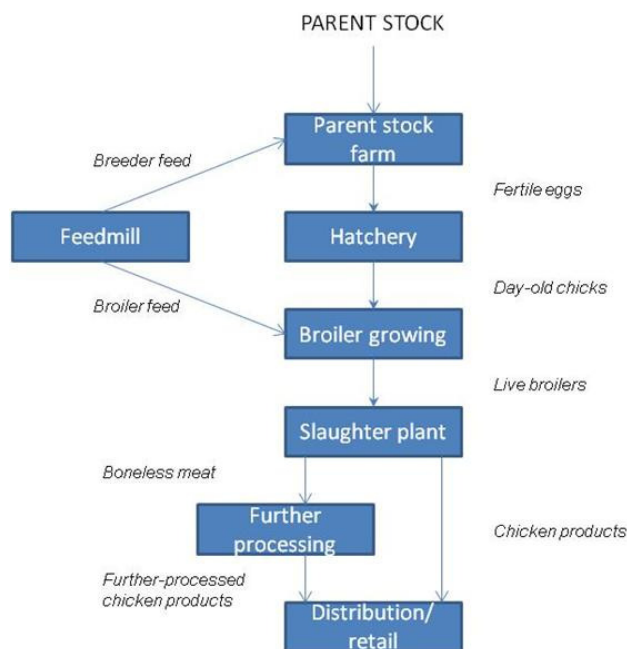


Figure 02 - Vertical integration in the poultry industry
 Source: Henry and Rothwell, 1995:2

The norm, if we look at the literature, seems to be that “Integrators usually own hatcheries, feed mills, slaughter plants, and further processing plants—that is, they may be vertically integrated into all stages except for broiler production, where they rely on networks of growers assembled through production contracts” (MACDONALD, 2008:3). With relatively large geographical proximity between growers and slaughter plants where there are many growers and relatively few slaughter plants, there is a relatively large interdependency between actors in the industry. This way of organizing the production helps to lower the costs, for instance transport costs, and thus contribute to the profitability of the industry. Large units in a geographically small area can thus be preferable.

In the literature we can see that the constructions of specialized production facilities represent a significant investment for growers. The broiler houses are expanding, and technological solutions are becoming ever more sophisticated. One challenge is that broiler houses have limited alternative applications (MACDONALD, 2008). Investment levels will probably vary depending on which climate zone production takes place. Breeding of chickens requires the ‘right’ balance between elements like feed, light, temperature, humidity, etc. What we can see is that livestock production in the Nordic countries and North America, with the cold winters represent one type of challenge, extreme heats that we can find in Kuwait represent another type of challenge, whereas Brazil seem to have a more ideal climate for poultry production.

We notice that the production time for broilers is short, 38-52 days, which indicates relatively high transaction rates (MANNING, BAINES and CHADD, 2008). For an illustration of the development in the broiler industry, see Table 01.

Table 01 - Development in the broiler industry

Year	Age to market (wks)	Feed per pound of gain (lbs)	Market weight (lbs)
1925	15,0	4,0	2,8
1950	12,0	3,3	3,1
1975	7,5	2,1	3,8
1990	6,5	1,9	4,5

Source: Martinez, 2002.

We also notice that different groups of customers have specific demands regarding quality and weight of chicken and chicken products. Product pricing is a key competitive element in the industry (cf. HENRY and ROTHWELL, 1995). Altogether we have many arguments pointing in the direction of substantial control over the supply chain. Martinez (2002) makes a point of the benefits gained from increased vertical control in the broiler industry, for instance lowered production costs, compared with the costs of independent producers, technological development, better disease control, better breeds, together with the lowering of costs.

If we look at the relationship between integrator and breeders, this seems to be relatively long-lasting and stable. MacDonald (2008) let us know that the average length of the relationship between the integrator and breeder is 13 years. The contract period may, however, vary widely, from contracts relating to individual flocks to long-term contracts up to 15 years. Breeders with the most up to date technology tend to have the longest contracts while breeders with older production facilities have contracts of shorter duration. Thus, production technology and not behavior seems to be the core argument for maintaining or discontinuing a relationship. From the literature on contracting between integrator and breeder (see e.g. TSOULOUHAS, 1999, TSOULOUHAS and VUKINA, 1999, VUKINA 2001, LEVY and VUKINA, 2002, WU, 2003, LEVY and VUKINA, 2004, LEEGOMONCHAI and VUKINA, 2005, VUKINA, T. and LEEGOMONCHAI, 2006, WU, 2006, ZHENG and VUKINA, 2007, VUKINA and ZHENG, 2007, DUBOIS and VUKINA, 2009, VUKINA and ZHENG, 2011) it appears fairly clear that one builds on the fundamental concept in economic theory that participants are primarily concerned with self-interest, and therefore it is necessary to set up a contract with stimulating incentives. The most common contract today, according Vukina (2001) is a two-part cardinal-tournament scheme. "Tournaments are labor contracts in which an individual's payoff depends on his or her own performance relative to that of others" (VUKINA and ZHENG, 2011:1).

Production costs and technology as we have seen are important factors in the poultry industry, Henry and Rothwell (1995) argue that the issues surrounding the market position and margin control, biosecurity and quality, as well as economies of scale and optimization of capital resources have been forces that have affected the increased degree of vertical integration. The general impression in the food industry is that there is a focus on avoiding unnecessary disruptions in the production process, and that this is something that has helped to push forward the increased degree of vertical integration (GILSON, SABEL and SCOTT, 2009 and MARTINEZ, 2002)

4. Vertical Integration in Brazil, Kuwait and Norway/Denmark

Organizations that are part of this study are found in different cultural clusters, as they are defined by the GLOBE-study (HOUSE et al. 2004). In the GLOBE-study social culture is defined as "*shared motives, values, beliefs, identities,*

and interpretation of meanings of significant events that result from common experiences of members of collectives and are transmitted across age generations” (HOUSE et al. 2002:5).

Brazil is part of the Latin-American culture; a culture characterized by high power distance and low performance orientation, uncertainty avoidance, future orientation, and institutional collectivism. People are less concerned with institutional collectivism, but all the more keen to protect their own status in the community and in-group. Leadership-wise, there is a relatively strong value based/charismatic and team-oriented approach, while we also will find elements of a self-protective approach. Kuwait is part of the Arab culture; a culture characterized by a high focus on in-group collectivism and high power distance. It has a low score on future orientation and gender equality. Leadership-wise, a team-oriented and charismatic approach seems to be most effective, while it is noted that *“it can be argued that an outstanding leadership style is not associated with an image of extremity”* (KABASAKAL and BODUR, 2002:49). Organizational-wise it is important to build trust and good relationships, as most businesses in this culture are family owned. Norway and Denmark are part of the Nordic culture. The image drawn of the Nordic culture is that it has a moderate to strong practice in relation to uncertainty avoidance, future orientation, institutional collectivism and gender equality. Practice is weaker compared to the in-group collectivism, performance orientation, assertiveness and power distance. Leadership-wise the Nordic culture is characterized by a relatively strong value based/charismatic, team-oriented and participatory approach.

Based on literature studies and interviews with actors in the broiler industry, we find there are different approaches to the question on vertical integration.

Table 02 - Vertical integration

	Brazil	Kuwait	Norway/Denmark
Production organization	More recent: Integration and partnership contracting. (Older: Market based organization.)	Vertical integration	Cooperative contracts and market based coordination
Main reason behind choice of vertical integration	Improving position as competitor on the international market. An important goal is to control animal health, security of supply, and the ability to conduct long-term investment (control).	Tradition with keeping control with all levels of production, and thus a lack of a well-functioning market.	Tradition with cooperative solutions in food production, where various parties specialize in certain areas of production

In an article by Taube-Netto (1996) we are presented with the systematic approach used by one of the major Brazilian poultry producers, Saida. They have had an operation analytic approach to the production in order to try and capture all relevant decision areas. To meet the demands of the consumers the production is carefully planned. Everything from choosing types of chicken, composition of feed, feeding, and transport distances between farms and slaughterhouses, slaughter and processing procedures, etc. The degree of specialization seems to be so strong that it normally would be an argument for vertical integration or strong vertical control. The

LAR Company stated that it is important to have control over the value chain, partly because they operate in the export market. For this reason also part of the breeders are ISO certified. Although Brazil has many naturally given conditions in order to become successful in chicken productions (NUNES, 2004), the competitive situation in the industry calls for a strong focus on a number of details in all stages of production. Previously we have seen that there are differences regarding degree of vertical integration in the Brazilian broiler industry. Silva et al. (2005) explained this with the time periods different districts entered the industry. In the State of Sao Paulo there is a mix between market organization in the older part of the industry and integration and partnerships in the more recent part of the industry. In the State of Parana the dominant structure is a mix between integration and partnerships. Partnership is defined in a way where the integrator supplies inputs (feed, vaccines, and medications, cut chicks) and technical assistance to the producer. The producer is responsible for breeding facilities, equipment and handling. Description of the Kuwaiti chicken production by Al-Nasser (2006) indicates a development from a situation of small-scale production to large integrated corporations. As one of the larger companies, Kuwait United Poultry Company (KUPCO) includes an egg laying division, breeding units, broiler farms, slaughterhouses, processing plants, feed mills and veterinary sections. They are also involved in trading and distribution of poultry and poultry processed products, and import of poultry, eggs and other related food materials. The company also operates and manages restaurants, cafes and food processing centers. The Norwegian production system is characterized by cooperatives. In the poultry industry, as in other industries within food production, one company (NORTURA) acts as market regulator. It is a role they have been given by the State. At the same time the company acts as an integrator and controls about 73 % of the broiler market (KJØTT- Og Eggmarkedet 2011). The most striking thing about the Norwegian market is the *“apparently limited coordination between processing and primary producers”* (Andersen, Skinnarland and Tveterås, 2008:115). This is something we see clearly when talking to Ytterøy chicken about poultry production. Farmers buy feed from which supplier they want. They are also responsible for purchasing hatching chickens from an independent supplier and where they will deliver the chickens when they are ready for slaughter, based on the contracts that have been made. Andersen et al. (2008) point out that this is a result of deliberate policy by the Norwegian government. The market regulation and agricultural policy counteracts the increased degree of coordination. Danish chicken industry has a strong industry organization, where the industry itself is defining quality standards, guiding manufacturers in relation to production economics, keeping production statistics etc. The cooperatives also represent the industry in the political debate, so that individual producers do not have to engage in political lobbying.

5. Discussion

Why do we find different approaches to the question of vertical integration in the poultry industry in different regions?

From a theoretical standpoint, there are basically two key assessments to be made, a cost assessment and a behavioral assessment where the main goal is to generate a cost-effective production.

5.1 Cost Assessment

We have seen that the poultry industry is an industry where you need to have a watchful eye to consumer preferences at any time. At the same time there is a strong focus on disease control. In the smallest business (slaughter plant) in this study there is a daily production of about 10 to 15,000 chickens, through approximately 50,000 on the medium sized plant and up over 300,000 chickens per day on the larger plants, which means a continuous pressure on output at all stages of the process. When we also can see that the production involves substantial transaction-specific investments and high transaction rates, there is much in favor of vertical integration in the industry. Arguments against vertical integration can be derived from the market situation. Strong fluctuations in the demand for chicken can contribute to overcapacity or under-capacity in the industry, where over-capacity in the short term will have the greatest negative impact on the economy of the actors. Fierce competition will challenge the industry's ability to develop, including technological development. With a large amount of capital tied up in old technology, companies run the risk of loss in the competition, if others choose solutions where part of the risk is transferred to others. This is not unique reasoning but reasoning that can be performed by all actors in the poultry industry. However, we see that different solutions regarding governance structures are chosen.

5.2 Behavioral Assessments

Basics in economic theory suggest that actors are primarily concerned with their own interests and that some actors will be more aggressive in pursuing their own interests than others. Regarding vertical integration, there is a central idea that vertically integrated systems ensure better behavioral control than other governance structures. According to Williamson (1971) hierarchical organizations have access to incentives, control instruments and structural advantages that other organizational forms do not have. What is status in the poultry industry? Production-wise, there is a large volume of birds that has to be processed through the chain of production every day. If the integrator loses one or more breeders, and they cannot be replaced immediately, it may have a significant impact on the integrator's economy. The breeder will also suffer financially if he cannot utilize the means of production he is in control of. In this way we can present a simple reasoning, relating to how the unrest in one part of the production chain can inflict other negative consequences. All actors in the chain of production are best served by stability. A strong degree of 'negative' opportunism could affect stability.

What we experience from the poultry industry is that different actors seem to be concerned with the long-lasting relationships even though the duration of specific contracts can vary widely. In the long run, actors are not, as Das (2004) points out, served by behaving opportunistically. One factor we should keep in mind is that the various actors in the industry are concentrated in the relatively limited geographical areas, which may help to facilitate dissemination of any information related to opportunism.

Looking solely on transaction cost theory, there should be no reason for considering the need for vertical integration differently in the poultry industry. Viewed in isolation, we should be able to see the same type of governance structure across borders, at least within the same nation - cf. Brazil as that is the nature of

institutional theory. A time related argument like Silva et al (2005) are using, that different regions established the broiler industry at different times and therefore have chosen different governance structure, seems a bit strange. It is not a rational argument, seen from a transaction cost perspective. The theory's institutional character reflects that it is a rationalized decision chain. If we do find that practice deviates from the rationality of the theory, we cannot look for reasonable answers within theory, but we have to search outside the theory.

5.3 The interesting question

If it is true that we can present fairly universal arguments related to cost assessments and behavioral assessments in the poultry industry, we are still left with the question of why different companies chose differently regarding vertical integration. Why is it that KUPCO in Kuwait owns the entire production chain while potential integrators in Norway and Denmark do not have ownership of the production chain, instead having a strong cooperativism? In Brazil why do we find a market solution and a combination of vertical integration and partnership? What affects the actors' judgment in the decision making processes? What is it that makes some people prefer hierarchical solutions while others prefer market solutions?

Through the introduction and theory section, we noted that there may be interesting to consider the institutional environment's impact on the actors' behavior in relation to the choice of institutional arrangement. Davis and North (1971) has pointed to the cultural, political and legal framework. We have seen that the solutions in Norway/Denmark and Kuwait are within what is described as the tradition. The cultural reasoning can however be different. Keeping within the societal culture in the Nordic countries you do not need to expose yourself to risk. You have reasonable control of where you want to be in one-to-ten years, not to mention you contribute to preserve existing practice. You might lose something due to the lack of competitive drive, but you can save something by not challenging established practices, and this might be the reasonable way to deal with the issue of vertical integration. The Kuwaiti solution also lies within an established tradition in which the in-group ('family') is the key. The normal solution, based on societal culture, is the vertically integrated system, while spot market solutions will be the exception. The Brazilian approaches as we have seen, vary and that is very interesting. As with Kuwait, the Brazilian societal culture has a strong focus on the in-group, and that single individuals are concerned with their own position in the group. Changes you will need to make when moving from a market organization, (as it appears to be the predominant situation in the state of Sao Paulo) to increased vertical integration, will mean you would have to challenge your own and others' positions in the network that have developed over time. Such a change can be very challenging, and thus you might not undergo such change without a crisis in the industry. In the state of Parana we can see the 'modern' way of organizing the poultry industry, with a mix of vertical integration and contractual control. What can be noticed is that instead of using the term contract, the softer term partnership is used. In classical contractual relationships it is normal to think that the contractual partner shall be held at arm's length, while the partnership allows for a more inclusive and close relationship – an in-group way of thinking of the relation. My main argument here is that that there seems to be a cultural commitment to preserve established relationships while it may culturally be more difficult to make changes in relationships where there has evolved a form of status clarification between different actors in the 'family'.

Concluding Remarks

The challenge I have looked into and the main issue raised in the article is why we find different forms of governance structures within the poultry industry, an industry that is often described as a strong vertically integrated/coordinated industry. The data show considerable variation in organizational form. When we use transaction cost theory as a basis for our analysis on integration strategy, the findings show us that it is necessary to have a keen eye to the theory's behavioral assumption. There is no guarantee that you can apply the classical economic assumption that agents are utility-maximizing or that they will act in a very opportunistic way. It can be, and that's my concern, that it is the fundamental cultural traits that govern behavior. In some cultures e.g. the Anglican culture, which is described as a strong performance culture, it may be that there is a stronger correlation between the basic economic behavioral assumption and the way one treats the issue of vertical integration. Considering empirical findings and analysis, it may be prudent to slightly adjust the model that was presented earlier in the article, so that it more closely accounts for the institutional environment's importance in different organizational forms.

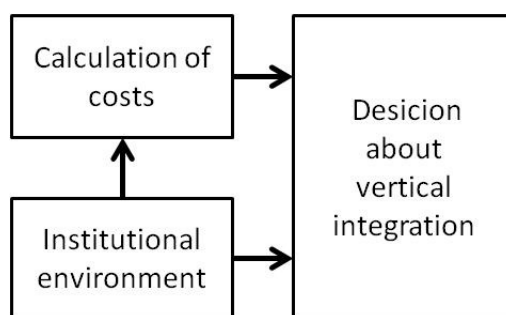


Figure 03 - Vertical integration – including institutional environment

The idea is that elements of the institutional environment effect how you evaluate the costs that form an important basis for decisions about the choice of organizational form, and the direct impact on the final decision, in part, regardless of how the costs emerge.

It is too early to draw definite conclusions, with the empirical basis that is brought forward in this study, so it will be necessary to conduct further research.

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