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Attenuated Property Rights and their Impact on Perceived Service Quality in Business Markets

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Abstract

Key Words: *Quality Perception, Business Services, Property Rights, Relationship-Marketing*

One of the most important areas of research in marketing in general and particularly in service marketing is the concept of quality (LOVELOCK 1996). Despite high efforts on this topic until today neither consensus on the economic determinants of service quality does exist nor how to measure this theoretical concept. However, empirical evidence could be found for the bottom line impact of quality on profits (e.g. ANDERSON/FORNELL/LEHMANN 1994). Customers that are satisfied with quality are more willing to establish profitable long-term relationships with their suppliers. Therefore, the objective of this paper is to provide some insights to fill the gap between practical relevance of quality and the still missing economic foundations for this theoretical concept. For achieving this objective the neo-institutional economic property rights approach will be chosen (e.g. BARZEL 1997, HART 1995). From this perspective service transactions can be considered as a kind of co-production where property rights are attenuated. The implications of this property rights theoretical interpretation put light on some important and still unsolved puzzles: First, from an economic point of view what are the reasons for the high emphasis that is put on quality aspects in service transactions? Second, what are the economic foundations for the positive correlation between business relationships and services? Finally, as a starting point for answering these questions, the recently rediscovered relationship between services and ownership issues (RIFKIN 2000) will be investigated as a key-feature of services. From a property rights point of view a theoretical model of perceived service quality will be developed and testable hypotheses are generated. The discussion of the "old" and "new property rights approach" (FOSS/FOSS 2000, BARZEL 1997, HART 1995) identifies some important ownership related *characteristics of transactions.* These characteristics *(excludability, rivalry* and *specificity*) then are used to conceptualise five determinants of quality uncertainty in case of attenuated property rights. They are key-drivers for three dimensions of quality uncertainty (*uncertainty about capture, hold-up* and *surplus from cooperation*) which in turn influence the overall evaluation of service quality. Moreover, the evaluation of service quality through these ownership related dimensions of uncertainty will be considered as an important source for commitment and establishing long-term business relationships. Therefore, attenuated property rights, as in the case of service transactions, are able to provide an economic explanation for quality perception and overall quality evaluation. Finally, commitment in relationships is a prerequisite to creating value and mitigating quality uncertainty. The emphasis on value creation and effectiveness distinguishes the property rights approach from the sole cost and efficiency perspective of transaction cost theory.

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1. Introduction

One of the most important areas of research in marketing in general and particularly in service marketing is the concept of quality (e.g. LOVELOCK 1996). Despite empirical evidence for the bottom line impact of quality on profits (e.g. ANDERSON/FORNELL/LEHMANN 1994) and despite the appearance of new service concepts like "performance contracting" neither sufficient research on business services does exist reflecting its increasing empirical relevance in general nor real consensus could be found on the theoretical foundations of service quality in particular. This concerns the measurement of service quality, the significance, structure and causality of the relationships between the constructs of service quality (e.g. BRADY/CRONIN 2001), and especially the determinants of service quality in business markets (WESTBROOK/PETERSON 1998). In this paper, the reason for that confusion is supposed to be rooted in a missing economic perspective on the theoretical construct of service quality. New insights will be provided by changing the theoretical lenses. One important branch of interaction thinking in the German industrial marketing literature is developed from "New Institutional Economics" (BACKHAUS 1998, KLEINALTENKAMP/JACOB 2002). Within that stream of research so far only limited attempts are made considering the property rights theory (e.g. HART 1995, BARZEL 1997) for investigating service transactions (e.g. FLIEß/KLEINALTENKAMP 2002, ULLRICH 2000, 2001). Therefore the objective of this paper is to provide a contribution towards filling this gap and offering an attempt for an economic rationale for service quality.

This paper is organized as follows: At first indications of the increasing relevance of business services and the importance of service quality are presented. A review of the literature of service quality and business services puts light on still unresolved puzzles in the research of service marketing. The basic concepts of the "old" and "new" property rights approach are discussed and the interpretation of services from an ownership point of view and some characteristics of transactions in terms of attenuated property rights are deduced. Based on this theoretical foundation the implications for endogenous market uncertainty are identified for conceptualising the determinants and dimensions of quality uncertainty. A conceptual model of the impact of attenuated property rights on quality uncertainty, overall quality evaluation and on commitment in long-term business relationships is hypothesized. Finally, implications for future research and the marketing management of services are suggested and a conclusion is given.

2. Quality and Services in Business Markets

2.1 Increasing Relevance of Business Services, Quality and Ownership Issues

In the literature of industrial or business-to-business marketing only limited space is devoted to services. Compared with the empirical relevance of services, this fact is so fundamentally surprising that it needs some discussion. In all developed economies of the world, the service sector represents far more than 60% of value added and employs a similar proportion of the working force. Even more interesting, within the service sector the share of services not devoted to consumers but rather to companies and organisations is the most important one.

The latter case of business services can be further differentiated according to the question if they are delivered by service companies (professional services) or by manufacturing companies which

are here defined as industrial services (HOMBURG/GARBE 1999). Especially for industrial services a trend can be identified which consists of turning product related business into a service business which implies a transformation of manufacturing companies towards service companies. This evolution put even more support for the evidence on the relevance of business services and is named by terms as "full service contracts" or "performance contracting". Although performance contracting belongs to the typical service transactions, it represents an extreme way of performing the service business in terms of variety of product elements (BUSE/ FREILING/WEISSENFELS 2001). This mode of service transaction is defined as "*that a supplier or a co-operation of suppliers renders a customized bundle of technical infrastructure with several add-on services within a frame-giving and long-lasting contract based upon the idea that the customer acts as a user of infrastructure, only paying for the performance delivered*" (BUSE/ FREILING/WEISSENFELS 2001, p.3). Similar to this definition STREMERSCH/ WUYTS/FRAMBACH (2001, p.2) state that, full service is *" a comprehensive bundle of products and/or services, that fully satisfies the needs and wants of a customer related to a specific event or problem"*.

Common elements of both definitions are the focus on comprehensive bundles of offerings as well as the long-term nature which is implied by the term contract. More important suppliers' perspective shifts from the objective of selling products but rather to the delivery of "performance" that solves the customers' problems. For instance producers of food and beverages are not interested in buying packaging machines but instead they want to protect their fresh products and that the latter get an attractive appearance in the eyes of the final consumer. As we will see later, these yet not well investigated new concepts in designing business services are very much related to questions of ownership which make it appropriate to view services from a property rights point of view (ULLRICH 2000).

However, the quantitative importance of services and such new concepts like performance contracting, provide evidence for the increasing relevance of business services. That indicates the necessity of looking at normative implications for the management of services, namely the impact of services and the quality of services on competitiveness of companies (e.g. ZEITHAML/BERRY/PARASURAM 1996). Empirical evidence for the positive impact of quality on the competitive position is already well documented in the PIMS research project (BUZZELL/GALE 1987). The relationship of perceived quality, customer satisfaction and profitability and therefore the bottom-line impact of quality has also been shown in many other empirical studies thereafter (e.g. ANDERSON/FORNELL/LEHMANN 1994).

The economic forces at work that promote the growth of business services need understanding of suppliers in order to participate in this general development. Therefore the management of quality in service transactions will be one primary precondition for achieving a competitive advantage in that kind of business. To attract customers and to become the preferred supplier of business services requires better knowledge of the dimensions and determinants of service quality. Hitherto missing consensus, confusion among the facets of the quality construct and deficits in theoretical foundation are obstacles for this objective (e.g. BRADY/CRONIN 2001). The next section provides evidence for this necessity.

2.2 The Concepts of Quality and Quality Evaluation

The meaning of "quality" is somehow fuzzy and there can be found quite a lot of definitions and descriptions of this concept in the literature (ULAGA/CHACOUR 2001). Some examples provide evidence for this statement. For CROSBY (1979) quality refers to "conformance to requirements". DEMING (1982) defines quality as the "predictable degree of conformity and dependability at low cost and suited to market". JURAN (1974) states that quality is „fitness for purpose", while OAKLAND (1989) simply suggests "meeting the customer requirements". However, some important common implicit elements can be found in all of these statements. First, there can't be any "once and for all" best and objective degree of quality but rather quality is always regarded from the market or customers point of view. Furthermore, quality is not a discrete "yes" or "no" variable but instead depends on the "conformity" or "degree" of "meeting" or "fitness" to certain customers objectives. This indicates a continuum of how well the means to an end are matching together. Finally and related to the latter, the continuum of degree of matching implies a set of variables, characteristics, attributes or dimensions determining the degree of quality. This leads to the problem of identifying the underlying dimensions and the to the measurement of quality. However, despite a vast amount of literature in service marketing research, until today neither consensus does exist on the theoretical foundation of service quality and its dimensions, nor on the measurement of perceived quality and its evaluation (BRADY/CRONIN 2001).

Concerning the dimensions and facets of service quality the obviously most comprehensive approach can be traced back to GARVIN (1988). He distinguishes five different perspectives for the definition of quality. A transcendent interpretation, rooted in philosophic thinking and defined as "innate excellence", a "product-based approach", a "user-based approach", a "manufacturing-based approach" and finally a "value-based approach". While the first one is lacking all precise operationalization, the next three approaches side with a specific perspective (product, customer, manufacturer). Only the latter defines quality in terms of an exchange relationship or trade-off between performance (quality) and the price as the sacrifice for the received utility. The different facets of quality give some insight to the problems of modelling and operationalization of this theoretical construct. Two main broad approaches can be distinguished that exemplify some shortcomings. According to BRADY/CRONIN (2001), researchers have adopted one of two conceptualisations of the construct in the past : an "American" and a "Nordic" perspective.

The "American" perspective refers to the SERVQUAL model of PARASURAMAN/ ZEITHAML/BERRY (1985, 1988). Rather than based on a sound theoretical foundation, this model was developed through comprehensive explorative empirical studies. After initially identifying ten underlying determinants that influence quality perception (reliability, responsiveness, competence, accessibility, courtesy, communication, credibility, security, understanding of needs, tangibles), the authors later simplified their model by concentrating on five variables (tangibles, reliability, responsiveness, assurance, empathy) (WESTBROOK/PETERSON 1998). This perspective which is also the base for the "gap-model" of service management, remained the dominant conceptualisation of service quality until today.

The roots of the "Nordic" perspective can be traced back to DONABEDIAN (1980). Here the quality of services is often conceptualised in global terms as consisting of three dimensions. These encompass structural, process and outcome service quality (e.g. RUST/OLIVER 1994).

Structural quality relates to physical and human resources and capabilities and contains the more stable characteristics of service providers (HOMBURG/GARBE 1999). Process quality relates to the activities and interaction between service provider and customer, whereas outcome quality describes how the purpose of the service delivery will be achieved. The latter two dimensions show much similarity to the quality dimensions of GRÖNROOS (1984). The final result of a service, the outcome dimension refers to GRÖNROOS "technical" quality dimension of "what" the customer actually receives. The process dimension provides information about the "functional" quality of "how" the service is delivered (HOMBURG/GARBE 1999). Unfortunately only limited empirical tests of this concept have been made (e.g. HOMBURG/GARBE 1999).

From a research point of view, the SERVQUAL dimensions as well as the dimensions of DONABEDIAN (1980) do not have any sufficient theoretical foundation but are both more or less inductively generated from empirical observations or from sound intuitive nonobservational propositions respectively. We will return to this point later after looking on the discussion of measurement issues of service quality since the missing consensus and confusion on this topic are supposed to have the same source.

Looking into more detail in the literature on the measurement of service quality, one can identify several shortcomings. One problem concerns the question of how to measure the theoretical concept of service quality, e.g. attribute measurement vs. critical incident method (CRONIN/TAYLOR 1992, BITTNER/BOOMS/TETREAULT 1990). Another problem refers to the question of measuring service quality based on the "confirmation-disconfirmation" paradigm (CDP) as in the SERVQUAL model (PARASURAMAN/ZEITHAML/BERRY 1988) or alternatively applying the "performance-only" measurement. The latter is preferred, since the simultaneous measurement of expectations and perceptions of performance is supposed to bias results (e.g. CARMAN 1990, CRONIN/TAYLOR 1992, BRADY/CRONIN/BRAND 2002). Further, the significance, structure and causality of the relationships between the constructs of service quality, satisfaction and customer retention is discussed but still remain unsolved (e.g. CRONIN/BRADY/HULT 2000). Finally, the general applicability of the SERVQUAL model for a broad range of services is questionable (e.g. CARMAN 1990, CRONIN/TAYLOR 1992, BABAKUS/BOLLER 1992). Related to this critique is the problem that there still exists no consensus on the dimensions and determinants of service quality (e.g. HOMBURG/GARBE 1999, PATTERSON/JOHNSON/SPRENG 1997, EKINCI 2001). Especially the *"attempts to apply the SERVQUAL instrument in the context of business services have not been very successful"* (HOMBURG/GARBE 1999, p.45-46, BABAKUS/ PEDRICK/RICHARDSON 1995). Therefore, the knowledge and understanding of the underlying determinants of service quality for business-to-business service encounters is still limited (WESTBROOK/PETERSON 1998).

In this paper, three aspects are of major concern. First, the missing ground theoretical foundation of the dimensions and determinants of service quality. Second, the confusion on the relationships and causality between the constructs quality and finally, the deficits in considering the quality perception of business and industrial services. It will be argued, that all these aspects are very much related to some shortcomings of theory construction in marketing research as suggested by BAGOZZIE (1984, 1998). According to his critique, marketers have tended either to emphasize theoretical postulates or the implied empirical observations. The former are typical for some

management science models in marketing. Complex systems of non-observational propositions are specified, and while these are internally consistent, empirical test of the theory remain rather limited (BAGOZZIE 1984, 1998). On the other hand some streams of marketing research, especially in consumer behaviour research, tend to overemphasize empirical observations: "*The danger here is that research could gravitate toward a type of raw empiricism rather than achieving a balance between sound theory construction and empirical verification*" (BAGOZZIE 1998, p 58). Exactly the failure to achieve this balance is reflected in the literature of service quality.

The dimensions and determinants of service quality according to DONABEDIAN (1984) are sound and well-formed elaborations of non-observational but intuitive and consistent propositions. However, they are biased towards overemphasizing conceptual postulates without considering testability. But even substantial theoretical arguments are at best only vague. The correspondence between theory and observations is often a loose one, and the concatenation of assumptions and hypotheses is not really tested (BAGOZZIE 1998) or even more serious can't be tested at all.

On the other hand, the discussion of the SERVQUAL model is a good example where knowledge on quality is almost entirely created in an inductive upward fashion: from data to theory understanding, from observational terms to the theoretical concepts (BAGOZZIE 1998). Since science is influenced by characteristics of individual scientists and by social forces, it begins as often with theory building as it begins with observations. More importantly the limitations of human cognitive abilities will always constrain data and its interpretation. For such an inductive development of theory one should keep in mind the critique of inductivism made by POPPER (1959).

Therefore, both extremes are violating the objectives of intersubjectivity and the possibility to falsify theories. In the SERVQUAL case, there are empirical observations but not theories that could be falsified, in the DONABEDIAN case of quality dimensions a sufficient ground theoretical foundation is missing but still also only limited intersubjectivity of the conceptual postulates.

Based on these insights there remain still some unsolved puzzles in the research of service marketing. These deficits are supposed to be serious causes for the presented confusion of the complexity of the quality construct. According to BRADY/CRONIN (2001, p.34): *"The missing link appears to be a unifying theory, or conceptualization, that reflects this complexity and the hierarchical nature of the construct"*. It is exactly the objective of this paper, to present a theory driven conceptualisation of service quality that contributes toward a more stringent explanation of some still open questions: What are the underlying dimensions and determinants of service quality and which theoretical mechanism exactly cause the well described affinity between the nature of services, the importance of quality and the role of relationships in services marketing? To provide a contribution towards an explanation of this puzzles a more balanced attempt of theory construction and empirical verification is presented by using the new institutional economic property rights theory as the starting point for a theory driven concept of service quality.

3. The Property Rights Theory and Business Services

3.1 The Property Rights Theory

The rationale for choosing the property right theory will be given at the end of this section as it will become clear why this theoretical approach is appropriate for investigating services. Accord-

ing to FOSS/FOSS (2001) the property rights theory can be separated into an "old property rights approach" (OPRA) and into a "new property rights approach" (NPRA). However, here it should be noted that this characterization does not imply an image of scientific advance in the sense of new is better. It is simply a reference toward chronology and should rather provide a framework for accentuate and better contrast different foci of perspective.

3.1.1 The "Old" Property Rights Approach

In a perfect ideal world without transaction cost the construct of ownership is meaningless. As pioneered by COASE (1960) in the case of external effects defined as the positive or negative impact of some agents activities on other agents utility without being compensated by market prices, the allocation of legally delineated rights (e.g. liability rights) does not matter in absence of transaction costs. There will be always an efficient bargaining solution where the actor that is exposed to negative effects is either compensating the agent that produces these effects if the latter has the full property rights to use his asset or either is being compensated if she has the right not to become hurt by the use of the other one's assets. This story is the basic insight of the so called "COASE Theorem". However, we are not living in a ideal world with zero transaction costs and obviously ownership issues and the allocation of property rights matter. The property rights theory is the result of relaxing the assumptions underlying the COASE Theorem. A vast amount of literature especially during the 60's and 70's of last century considers issues as the meaning of ownership, the relationship between property rights and ownership, and the importance of legal considerations for understanding ownership (e.g. ALCHIAN/DEMSETZ 1972, FURUBOTN/PEJOVICH 1972, BARZEL 1997). Particular focus has been put on the allocation of property rights and its consequences for the theory of the firm. Some important general elements of the OPRA have to be explained in more detail.

Property rights are a social construct as they *"do not refer to relations between man and things but, rather to the sanctioned behavioural relations among men that arise from the existence of things and pertain to their use ... the content of property rights affects the allocation and use of resources in specific and predictable ways. "* (FURUBOTN/PEJOVICH 1972, p. 1139). Key-assumption of this perspective is that the value of resources does not depend on some physical characteristics but from a vector of property rights to use the resources. These rights consist of four basic subsets: The right to use an asset (usus), the right to change an asset in its form, substance or location etc. (abusus) the right to receive the residual income from an asset (fructus) and finally, and most important the right to transfer all or some of these rights to other actors, that means the right to exclude other from the use of the asset or to alienate the asset (FURUBOTN/PEJOVICH 1972).

Property rights are said to be attenuated through the imposition of restrictions by the state (explicitly stated in the law) or through conscious transfer of some of these rights to other actors (e.g. rental) without alienating the asset. However, the general hypothesis of the property rights theory is that the more complete property rights are specified (the lower the degree of attenuation) the more accurate will a user of an asset take into account the cost and benefits of using that resource (the lower the extend of externalities). So, why should be property rights attenuated at all?

A first answer to this question is a trade-off since the specification of property rights is not costless due to the existence of *transaction cost of specifying property rights*. Property Rights have to be defined which includes the cost of measurement and cost of delineation (BARZEL 1997). The transfer of property rights is not costless especially the cost of enforcement has to be mentioned but also the cost of changing agreements due to new circumstances. Therefore a reduction of transaction cost result in a more complete specification of property rights and therefore in a more efficient usage of resources. In fact transaction cost determine the degree of exclusivity of ownership since they influence to what extend other actors can be excluded from the use of an asset.

Beside transaction cost a second variable is the *value* of resources. Given certain transaction cost, the more valuable the assets are, the higher the gains for specifying property rights. As was pointed out first by DEMSETZ (1967) the creation of rights in a society is a response to increases in value of rights. As the value of a common-property resource increases, it is more likely that rights will be established over it BARZEL (1997, p. 92). Both variables, transaction cost of specifying property rights and the value of resources are the theoretical foundations for the dimensions of a well known classification of goods in economic theory. Depending on the possibility of excludability and the existence of rivalry[1] in using resources, one can distinguish private goods, natural monopolies, common goods and public goods (see figure 1).

	Rivalry	**No Rivalry**
Excludability	*Private Goods*	*Natural Monopolies*
No Excludability	*Common Goods*	*Public Goods*

Figure 1: Economic classification of goods

(Source: According to MANKIEW 1997)

Important advances in the OPRA are made by BARZEL (1997). He emphasizes the fact that resources consist of many characteristics in terms of many possible uses of assets.[2] The property rights analysis should focus on these "multi-attribute assets" and the ownership of attributes rather than of assets. Some important implications arise from the multi-attribute asset perspective of property rights theory (BARZEL 1997, p. 148-151): Because assets consists of multiple attributes and due to the transaction costs of specification, rights are never perfectly delineated to all attributes. Those that are not delineated to property rights remain unpriced in the "public domain" and are exposed to externalities. This uncompensated exploitation by other actors is called "capture" by BARZEL (1997). Depending on the change of value of attributes and depending on changing cost of specification, what is left exposed to externalities is changing correspondingly.

A second answer to the question why should property rights attenuated if this causes externalities, concerns the impact of actors on the value of attributes of assets. Those actors that have the greatest influence on the variability of value of attributes of resources should become the owner of that attribute and assume the associated variability (e.g. that actor that is specialized to make best use of specific attributes of an asset). Due to the complexity of attributes of assets, the most efficient owner of particular attributes is not necessarily the most efficient owner of other attributes.

[1] The term of rivalry refers to the degree of competition for valued and therefore scarce resources and therefore recognizes the social nature of value.

[2] Note the interesting similiarity between focus on attributes of assets rather than on assets themselves and the focus in marketing thinking on solutions for problems rather than on products (e.g. LEVITT 1960).

Therefore it may be efficient to divide ownership of an asset that has theses attributes, among several actors (e.g. between landowner and farmer) in order to maximise value (BARZEL 1997). Attenuation of property rights is therefore the result of matching attributes of an asset to the best owner of that attribute, since that actor best take into account for cost and benefits of using that attribute. Again, a trade-off exists, now between gains from the attenuation of property rights on assets and the cost of attenuation in terms of externalities or "capture" of left unpriced attributes.

As FOSS/FOSS (2001) point out, despite the advanced contribution of BARZEL to focus on multiple attributes of assets, it remains necessary not to completely neglecting transactions relating to assets rather than to attributes. In fact private ownership on assets is the institutional device to allocate use rights for the case of decisions to put resources in unforeseen uses that are not explicitly defined in any contract because of the openness of the future. This aspect of unforeseen contingencies which is mayor subject of market process theory (e.g. HAYEK 1945) will be explicitly considered in the "new" property rights approach.

3.1.2 The "New" Property Rights Approach

Based on the critique on the other streams of research in NIE the "new" property rights approach (NPRA) directly addresses the meaning of ownership. As in transaction cost theories, NPRA recognizes that writing contracts is costly. However, despite directly investigating the "make or buy decision" and suggesting vertical integration as a device to safeguard against "hold-up" due to opportunistic behaviour and specific investments, transaction cost theories can't explain *why* hold-up behaviour is reduced in a merged single firm.

The new property rights approach tries exactly to explain these open questions: First, the *meaning of ownership* by applying it to the question of what changes when two firms merge. Second, the economic *implications of ownership* for the *"hold-up"* problem and finally, the issue of *why it matters who owns* an asset and therefore who should own an asset under consideration. The basic concept of this more formal theory of ownership was developed by GROSSMAN/HART (1986), HART/MOORE (1990), MOORE (1992) and HART (1995). Because of this, the theory is often referred to as the "GHM" approach.

Concerning the meaning of ownership, buying a firm means becoming the owner of the assets of that firm, including all physical capital and non-human assets. In absence of slavery all human capital remains to the workers as before since it is inseparable embodied in the human beings. The central idea is that ownership of physical and non-human capital matters since ownership is a source of authority and power when contracts are incomplete. In fact due to the openness of the future and bounded rationality of human beings not all unforeseen contingencies can be specified in complete contracts especially not all aspects of possible future not yet known asset usages: *"According to the property rights approach, it is the owner of the asset in question"* who has the right to decide about unspecified usage (HART 1995, p. 30). These yet unknown possibilities of future states are in some sense residual and ownership is therefore defined as having *residual control* rights over non-human assets. This implies that in a world where all contracts would be complete there would not be any residual situations and therefore no need for the institution of ownership in the sense of residual control rights. All possible usages would have been explicitly specified in complete contracts. Here it is assumed that there exist situations and possible actions

that cant be contracted for ex-ante and are therefore non-contractible. In the context of NPRA non-contractability refers not to asymmetric information between a principal and an agent, in fact the variables of concern may be observable to both parties, rather what is meant is that contracts may not be verifiable to third parties like courts.

Interestingly such a situation is typical for service transactions since an important characteristic of services is, that services are not existing ex-ante but rather are simultaneously produced and consumed ("prosumed") in interaction between supplier and customer (e.g LOVELOCK 1986). Value is only created in interaction between service supplier and customer Especially for such complex business services like consulting or auditing, non-contractability of future contingencies should be the norm.

The economic implications of ownership in terms of residual control rights becomes obvious when the problem of "hold-up" arises in cases of relationship-specific investments. In the "three factor paradigm" (uncertainty, specificity, frequency) of transaction cost economics (HOLMSTROM/ROBERTS 1998, WILLIAMSON 1987) the focus lies on the ex-post specificity that occurs after the "fundamental transformation". The need to safeguard against opportunistic behaviour, is suggested to accomplished best by vertical integration. In fact, there is an implicit increasing monotonic function between the degree of ex-post specificity and degree of hierarchical governance mechanisms. However, no sufficient explanation exists why integration is a device to protect specific investments.

In the NPRA the ownership over non-human assets gives the owner bargaining power when unforeseen or uncovered contingencies force parties to renegotiate how their relationship should be continued (HOLMSTROM/ROBERTS 1998). After actors having made non-contractible specific investments in their human capital (e.g. effort, knowledge), that are complementary with a set of non-human assets, ex-post bargaining determines the distribution of returns from the investments. Since human capital is still owned by the actors, it is the ownership over non-human assets that gives bargaining-power during renegotiation if unforeseen contingencies arrive: *"The owner of an asset can decide how it should be used and by whom"* (HOLMSTROM/ROBERTS 1998, p. 77). Assets become the leverage in negotiations as they provide power by deciding who should get access to resources that are necessary in order to make use of specific investments. In anticipation of possible renegotiation, ownership affects the incentive to make such relationship-specific investments at all. To sum up: *"the benefit of integration is that the acquiring firm's incentive to make relationship-specific investments increases since, given that it has more residual control rights, it will receive a grater fraction of the ex-post surplus created by such investments. On the other hand, the cost of integration is that the acquired firm's incentive to make relations-specific investments decreases since, given that it has fewer residual control rights, it will receive a smaller fraction of the incremental ex post surplus created by its own investments"* (HART 1995, p. 33).

At first glance is seems to be a zero-sum game since the benefits of increasing investment incentives through ownership for one party are bought at the costs of decreased incentives by the non-owning party and ownership shares cant add up to more than 100 percent (HOLMSTROM/ROBERTS 1998). However, it is rather a trade-off and interesting determinants

are proposed that do answer the question of *who* should be the optimal owner of assets in order to create the greatest surplus from cooperation.

Without going into much detail, there are some characteristics of the actors, investments, and assets that determine to which extend incentives to make specific investments have to be affected by ownership in order to maximise the value of the commonly created surplus. These encompass for purpose of this paper the following aspects. First, the relative importance or *relative productivity of specific investments*. Second, the question if *resources are dependent and complementary* in the sense of increasing the marginal return from investments if access to different resources of different actors is needed or, alternatively if access to other one's resources is denied, no value at all will be created, respectively. Finally, the question if someone's *human capital is essential* that means if without access to it the marginal return from investments is not enhanced either.

As shown by HART (1995), from these characteristics some propositions are implied: The actor of which the specific investments are relatively unproductive should not be the owner of the assets under consideration. Independent assets should not be owned together, whereas for strictly complementary assets some form of integration is optimal. Finally, the actor of which human capital is essential, should be the owner of the corresponding assets.[3]

The implication of NPRA for the objective of this paper is to identify the drivers of service quality is the recognition that ownership issues influence human behaviour even in cases of symmetric information through its affection of incentives to make relationship-specific investments. Ownership protects for "hold-up" behaviour but it does not follow automatically more vertical integration with increased asset specificity as in transaction cost theory. Rather certain other factors like characteristics of assets, importance of investments and human capital determine the value of the commonly created surplus of cooperation. Therefore it is plausible to assume that these determinants also do have impact on perceived service quality in the sense of created value in service interactions. The central constructs that will be used for further analysis are first, *relationship-specific investments* which create ex-post specificity and second the *degree of how complementary* are human and non-human capital that can be interpreted as ex-ante specificity. To sum up, the central characteristic of transactions in the NPRA is the *degree of specificity*.

3.2 A Synthesis: On the Relevance of Ownership issues in Services

To give an foundation for the relevance to apply the property rights theory to the investigation of services and service quality, two aspects have to be mentioned that indicate the relationship between services and ownership issues.

First, as noted at the beginning ownership issues are of increasing relevance in the literature of services in general (RIFKIN 2000, ULLRICH 2000), especially for such new service concepts like "performance contracting", and particularly, for services in the new economy regarding the protection of copy rights on information (e.g. SHAPIRO/VARIAN 1999, ULLRICH 2001). Related to this rediscovery of the question of ownership one interesting fact has to be reminded: Since the beginning of the literature on services and service marketing, the service characteristic

[3] Note that NPRA , by looking at actors, investments and assets, explicitly considers similar dimensions as the network approach with its actors, activities and resources (HAKANSSON/SNEHOTA 1995).

of “no transfer of ownership” has always been, mentioned but never deeply investigated (e.g. JUDD 1964, p.58, RATHMELL 1974, p.6). Instead researchers overlooked this important characteristic due to the sole focus on measurement issues or to due to the path dependency of other theoretical paradigms (e.g. KUHN 1970).

Second, one central “dogma” in the concept of marketing-management is the critique of a simple product and selling thinking (e.g. LEVITT 1960, KOTLER et.al. 1999). Rather, the focus of all management activities should be the identification of customers problems, needs and wants and not the simple selling of products, since there do exist many possibilities to solve the problems of the customer. Going even further it is not the generic physical product itself for what the customer is assumed to be interested in but a bundle of elements for solving problems. Very much related to this interpretation are the assumptions of the property rights theory that actors are not interested in physical entities but that the value accrues from the rights that are associated with an asset. As developed further by BARZEL (1997) even not the rights on assets are the subject of desire but rather the property rights on certain attributes of assets, therefore the concern for multi-attribute assets.

To sum up, services are characterised by “no transfer of ownership” compared to the selling of classical goods. Now, this becomes obviously as one is looking on the above mentioned concept of “performance contracting” which explicitly consist of the relinquishment of buying and selling and the transfer of ownership. Since customers are less interested in the possession of certain assets but in the performance of certain attributes supplied by these assets. Rather than buying assets, customers real preference will then be reflected in a limited in time transfer of certain property rights on certain attributes (e.g. leasing or renting) in order to get temporarily access to the assets and to receive the performance. This can be well explained by the NPRA as it suggests that the optimal ownership structure is that one that increases surplus from interaction. In services transactions as in the case of performance contracting no ownership is transferred. This is an important distinction to traditional selling and buying of goods. Therefore the supplier of the service seems to be the optimal owner of certain assets to which the customer only wants to get access. In terms of NPRA this implies that either the human capital of the service company that offers the service is essential, their specific investments are relatively more important and/or the value of complementary assets will be higher when they are owned by the supplier.

The application of the property rights theory that explicitly investigates the *meaning of ownership* and tries to explain decisions of *who* should own *which attributes* of an asset and that identifies the determinants of *why* does it matter who owns an asset is therefore straight forward and justified. From this point of view the NPRA provides new insights to the “make or buy decision” concerning services. In fact, the classical “make or buy” decision is somehow misleading because it mixed up activities and assets. Rather than making an activity themselves the question is if it should be let made by someone else (the service supplier). Similar, rather than buying assets, the question is to rent or lease them. Moreover, since the property rights theory investigates the determinants of the optimal ownership structure, and the missing transfer of ownership was identified as a relevant characteristic of services, a contribution is provided towards explaining the increasing importance of services in general and particular such new concepts like “performance contracting”.

However, once a decision to use a service is made, the question remains which supplier to choose. This will be a question of which supplier provides best service quality. Because of this, the understanding of quality and its dimensions and determinants is so important from the suppliers point of view. While the NPRA provides some insights on the overall question to use a service supplier at all, an integrated application of NPRA and OPRA offers a picture for better understanding service quality. From this perspective service quality refers to the optimal matching of supplier and customer in terms of maximising commonly created surplus in interaction. Therefore property rights theory provides substance to the quality definitions of "conformance to requirements" (CROSBY 1979) or "fitness for purpose" (JURAN 1974).

4. A Conceptual Model for the Impact of Attenuated Property Rights on Perceived Service Quality

4.1 Characteristics of Transactions and Market Uncertainty

There are two broad issues in the German marketing literature of industrial marketing. First, the tradition of classifications and typologies of products and transactions (e.g. BACKHAUS 1998), and second the application of the new institutional economics (NIE) as one branch of interaction thinking (KLEINALTENKAMP/JACOB 2002). According to the latter, the specific situation of the interaction and relationship between customers, suppliers and competitors is determined and characterised by market uncertainty: *"Two types of uncertainty are distinguished: exogenous and endogenous. Exogenous uncertainty is caused by factors not controlled by the by the relevant actors, while endogenous uncertainty is the result of the strategic action of one or more of the exchange partners ... Uncertainty underlies the structure and operations of the marketing system and determine the existence, nature and role of institutions"*(KLEINALTENKAMP/JACOB 2002, p. 151). From this point of view, marketing is the management of uncertainty in order to generate revenue. Based on this perspective the management of uncertainty requires to identify the dimensions and determinants of uncertainty to get control over uncertainty and to direct it in favour for generating revenue. Therefore, in the context of service quality, the dimensions and determinants of uncertainty on perceived service quality have to be considered. To accomplish this, the NIE paradigm of transaction characteristic's influence on market uncertainty has to be applied.

Since, the relevance of ownership issues and the applicability of property rights theory was investigated above, the characteristics of transactions from this theoretical point of view will be reminded. As already stated, however with a few exceptions (e.g. FLIEß/KLEINALTENKAMP 2002, ULLRICH 2000, 2001) until today the property rights theory has not been considered yet in detail as a possible theoretical foundation of marketing decisions. But as KLEINALTENKAMP/JACOB (2002, p. 151) note: *"By their nature property rights are uncertain and, for products like software, substantial efforts are undertaken to protect property rights and guard against property rights piracy"* (e.g. ULLRICH 2001). In detail, in the former section three important characteristics of transactions could be identified. As discussed, in the OPRA, indicators for the attenuation of property rights are the *excludability* and the *rivalry* in using assets whereas from the NPRA the importance of the role of *specificity* for the surplus of cooperation could be derived. According to the NIE paradigm of that the market situation affects the

market uncertainty, the central assumption here is that the mentioned characteristics of transactions are underlying the market uncertainty in terms of the construct of quality uncertainty. In the following section based on the theoretical discussion from above, a conceptual model is proposed were the characteristics of transactions in terms of attenuated property rights are conceptualised and the dimensions of quality uncertainty and their determinants are derived.

See figure 2 for an complete overview on the structural model. This will be the base for a structural equation model (e.g. JÖRESKOG/SÖRBOM 1981) in future research. The determinants of quality uncertainty are deduced from the above identified characteristics of transactions. Since a causal relationship is assumed between the *determinants of quality uncertainty* and the *dimensions of uncertainty*, the latter are endogenous theoretical constructs whereas the former are exogenous theoretical constructs. The endogenous constructs are furthermore supposed to affect the *overall evaluation of service quality* which in turn has impact on perceived *commitment* in business relationships. Hypothesises concerning the endogenous constructs will be developed first.

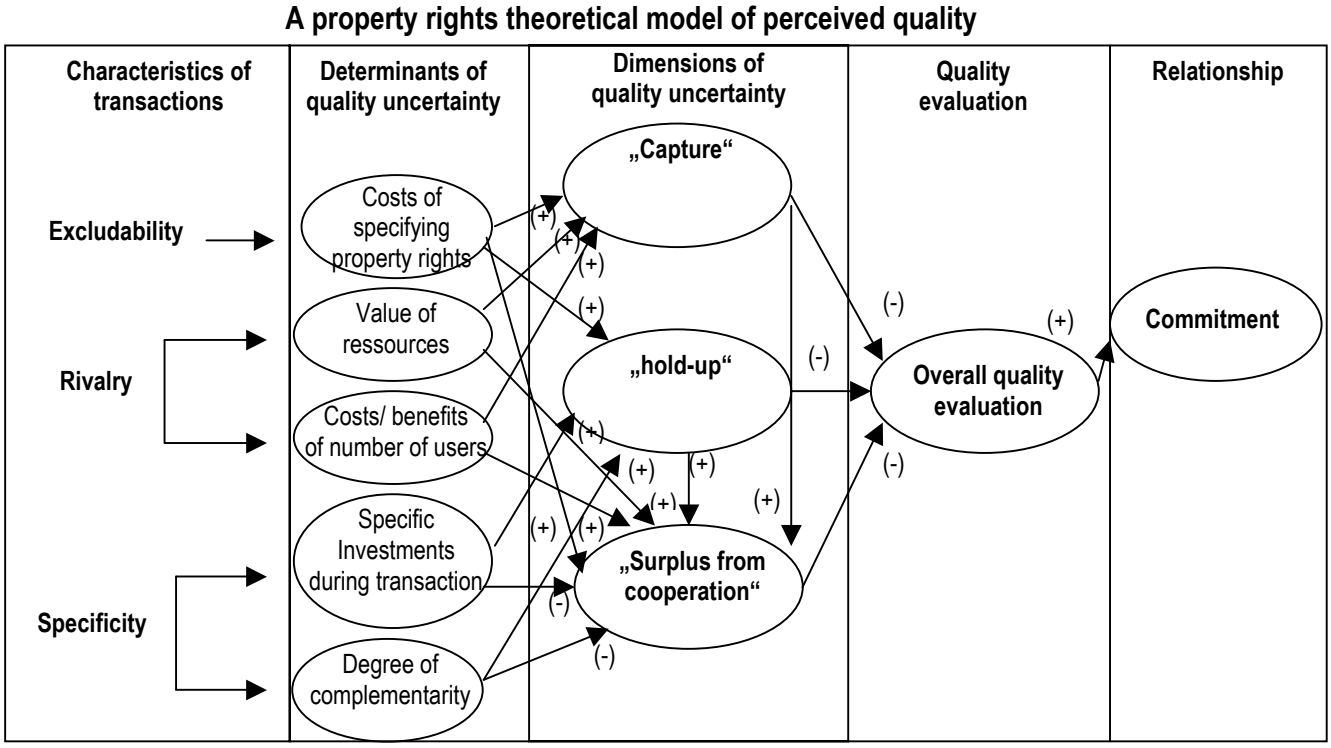

Figure 2: A property rights theoretical model of perceived quality

4.2 The Conceptualisation and Hypotheses of the Model

4.2.1 Dimensions of Quality Uncertainty and Commitment

As in the traditional literature of service quality, here the construct of quality uncertainty is assumed to have many facets and therefore being multi-dimensional. In correspondance to the NIE paradigm that transaction characteristics determine market uncertainty on behaviour, the overall evaluation of service quality is assumed to be affected by the dimensions of uncertainty of quality. In this respect, the quality uncertainty has a hierarchical nature since it consists of the two layers, dimensions and determinants of quality uncertainty. Interestingly, a hierarchical nature is

also suggested in the model of BRADY/CRONIN (2001). While their model is developed inductively through qualitative interviews, the model here is deduced from ground theory.

The Dimensions of quality uncertainty and the hypotheses of their impact are derived from theoretical discussion of NPRA and OPRA above. Based on the critique that the NPRA only focus on the "hold-up" problem and does not consider the cost of enforcement, and the cost of measurement and monitoring as in the OPRA (e.g. HOLMSTROM 1999) both property rights perspectives will be integrated since they complement each other. Therefore, as described in the last sections the problem of *"hold-up"* as in the NPRA and the problem of incentive problems in terms of *"capture"* in the OPRA are considered as important dimensions for evaluating service quality.

Uncertainty about capture

As discussed earlier, the uncertainty problem of "capture" refers to the uncertainty about handling other one's property. In detail how much care will be devoted to resources that are limited in time transferred to other actors. For instance, in the case of repairing a car, the customer may fear, that her car will not be handled very carefully, since the garage does not bear all costs and benefits as the owner. But this uncertainty also occurs, if the service supplier limited in time transfer his assets to the customer for using as in case of leasing or renting. In both cases uncertainty about the intention to "capture" some of the "attributes" (BARZEL 1997) will affect perceived service quality and the final outcome of the service delivery. Interestingly, the property rights theory reflect this reciprocal nature of interaction which is neglected for instance in principal agent theory that focus on asymmetrical relationships. The following hypothesis is proposed concerning uncertainty about "capture":

H1a: "Uncertainty about capture" will negatively contribute to the "overall service quality evaluation".

H1b: "Uncertainty about capture" will increase the "uncertainty about the surplus from cooperation".

Uncertainty about hold-up

The uncertainty about the "hold-up" problem refers to fear that the interacting counterpart acts opportunistically and takes advantage from possible dependencies. Dependency is created by relationship specific investments (e.g. HART 1995). The return from these investments depends on the existence of the specific relationship under consideration. That party that has a relatively greater share of investments, is more "locked-in" into the relationship and has according to NPRA less bargaining power in ex-post bargaining and is in danger to loose in renegotiations a higher proportion of the commonly created value. Also this problem is reciprocal in nature, since the supplier as well as the customer may invest specifically and are exposed to "hold-up" (e.g. waiting time of a customer, problem of collecting payments for the supplier). Therefore:

H2a: "Uncertainty about hold-up" will negatively contribute to the "overall service quality evaluation".

H2b: "Uncertainty about hold-up" will increase the "uncertainty about the surplus from cooperation".

Uncertainty about the surplus from cooperation

Common to both property rights approaches (OPRA and NPRA) is the focus on symmetry in the relationship and the emphasis on value creation and surplus maximization rather than only looking on asymmetrical exploitation and on efficiency aspects in terms of transaction cost minimization as in transaction cost economics. Because of this, as a third dimension of quality uncertainty will be used the *"surplus from cooperation"*. This construct corresponds to the "quasi-rent" of WILLIAMSON (1987) or the "amount at stake" of SÖLLNER 1993. The created value would be lost in the case of relationship dissolution. On the other hand the creation of wealth in terms of creating a surplus is only possible due to interaction in the sense of cooperation and making specific investments. Despite the dark side of cooperation that is reflected in dependency through hold-up and by capture, this focus on "value" considers not only efficiency considerations but rather effectiveness as the main important objective of relationships of interaction. Therefore:

H3: "Uncertainty about the surplus from cooperation" will negatively affect the "overall evaluation of service quality".

Overall evaluation of quality and commitment

In the recent literature, the service quality construct has been criticised for surpressing the sacrifices in terms of price that have to be payed for the service delivery (e.g. ULAGA/CHACOUR 2001). It is assumed that quality can only be evaluated in relation to the sacrifice which is already reflected in the concept of "value" and in the "value-based approach" of quality of GARVIN (1988). The total exchange relationship should be regarded, that is the trade-off between performance (quality) and the price as the sacrifice for the received utility. This critique is implicit considered in the NPRA, where the surplus from cooperation is a payoff net the price of the object of exchange (HART 1995, p. 39). But moreover, as discussed the proposed model explicitly focus on additional aspects of quality like the uncertainty about "hold-up" and about "capture".

As already stated, the surplus from cooperation or the value and the benefits of the relationship are central elements of binding actors together. In fact it is the "amount at stake" that generates commitment and stabilizes business relationships (e.g. SÖLLNER 1993). In detail the construct of commitment could be defined as the *"desire to develop a stable relationship, a willingness to make short-term sacrifices to maintain the relationship, and a confidence in the stability of the relationship"* (ANDERSON/WEITZ 1992, p. 19). According to MORGAN/HUNT (1994) partners that deliver superior benefits will be highly valued, firms will commit themselves to establishing, developing, and maintaining long-lasting business relationships with such partners. Thus, as the benefits from cooperation will have a positive influence on perceived service quality, it is plausible to assume that perceived service quality, will have a positive impact on commitment (HOMBURG/GARBE 1999, p. 52).

H4: The overall evaluation of service quality will positively contribute to the commitment of the actor.

4.1.2 Determinants of Quality Uncertainty

So far hypotheses on the endogenous constructs has been presented. From a marketing-management point of view the determinants of quality uncertainty are of particular importance,

since they are the variables that can and have to be designed according to marketing objectives. In the structural model these determinants are the exogenous constructs. They are derived from the property rights theoretical characteristics of transactions (excludability, rivalry and specificity).

Excludability

From the characteristic of excludability of other actors from using assets, the transaction cost of specifying property rights has been deduced in order to conceptualise this construct. These encompass cost of measurement, definition, specification, transfer, and enforcement. They are not restricted to monetary cost but rather should also consist of any time and effort devoted to evaluate (measure) performance attributes, writing contracts, protect property and make sure that actors are acting accordingly to agreements. These cost are supposed to affect all three dimensions of quality uncertainty.

H5a: The "cost of specifying property rights" will positively affect the "uncertainty about capture".

H5b: The "cost of specifying property rights" will positively affect the "uncertainty about hold-up".

H5c: The "cost of specifying property rights" will positively affect the "uncertainty about the surplus from cooperation".

Rivalry

Given constant cost of specifying property rights, an increased value of resources was suggested to increase the return from specifying property rights. Increased value means increased competition or rivalry for resource. The concept of rivalry is derived from the economic concept of scarcity and consists of at least two subsets. First, rivalry refers to the value (scarcity) of resources relative to the individual situation of an actor (e.g. the situational value of water in a dessert, the value of resources in relation to the overall personnel wealth). Increasing value of assets will increase the uncertainty that the assets temporarily devoted to another actor are not handled carefully (e.g. during transportation). Increasing value of resources temporarily devoted to an actor also increases the uncertainty about the surplus of cooperation. With increasing value the outcome of the service delivery gets more importance, since the "amount at stake" increases (e.g. value of a court fight).

H6a: The "value of resources" temporarily devoted to an actor will positively affect the "uncertainty about capture"

H6b: The "value of resources" temporarily devoted to an actor will positively affect the "uncertainty about the surplus from cooperation".

Second, rivalry (scarcity) is related to the number of other actors that compete for a given resource. However, situations are possible where the value of a resource increases as the number of interacting user is increasing, as in the case of telecommunication networks or the internet. This is the case of positive network externalities that are so fashionable in the "digital economy" (e.g. SHAIPIRO/VARIAN 1999, ULLRICH 2001). But even user of traditional services as cinema, theatre or sport events receive much of their utility from the number of other actors simultane-

ously joining such services. Of course, there are limitations in capacity where the utility of many visitors will change to a feeling of congestion since, after reaching a certain point, assets tend to exposed to over utilization (e.g. tragedy of the commons) which is a case of "capture".

H7a: The cost (benefits) of the number of actors will positively (negatively) affect the "uncertainty about capture".

H7b: The cost (benefits) of the number of actors will positively (negatively) affect the "uncertainty about the surplus from cooperation".

Specificity

As discussed in the NPRA, regarding ex-ante and ex-post specificity a distinction can be made between the degree of how complementary assets are and the importance of specific investments during the transactions, respectively. The more complementary assets are, the higher will be the surplus from cooperation (HART 1995). However, this also increases the fear of opportunistically taking advantage from dependency. Similarly, regarding specific investments during the transaction, higher specific investments will increase the surplus from cooperation but again, increases the fear for hold-up (HART 1995).

H8a: "Specific investments during the transaction" positively affect the "uncertainty about hold-up".

H8b: "Specific investments during the transaction" negatively affect the "uncertainty about the surplus from cooperation".

H9a: The more "complementary the assets" are in the relationship, the higher will be the "uncertainty about hold-up".

H9b: The more "complementary the assets" are in the relationship, the lower will be the "uncertainty about the surplus from cooperation".

4.2 Implications for Future Research and Marketing-Management

The next steps in future research have to be the operationalization of the latent exogenous and latent endogenous variables and the empirical test of the structural equation model. Based on the results on the fit of this model with real data, implications for the marketing-management of business services have to deduced from the property rights theory. However, some important notes can already mentioned at this stage. Especially the determinants of quality uncertainty (transaction cost, perceived value of assets, utility or costs from other users, specific investments and asset characteristics) are founded candidates for designing instruments for marketing management. It seems very promising and fruitful to further deductively develop the conceptual model since a more theoretical founded structure will avoid the subjective bias from inductive models.

Interestingly by looking into much more detail, there are quiet a lot of similarities to existing models. Especially one can rediscover the conceptual quality dimensions of DONABEDIAN (1980) and GRÖNROOS (1984). The dimension of uncertainty about capture and its determinants refers to assets or resources and is therefore related to the structural quality dimension. The uncertainty about hold-up and its determinants is related to the process or "functional" quality

dimension of "how" the service is delivered. Finally, the surplus from cooperation an its determinants have much in common with the outcome quality or the "technical" quality of "what" is delivered. However, some of the determinants of the property rights model dimensions are at the same time factors of more than one of the conceptual quality dimensions like for instance specific investments refer to the process as well as to the outcome dimensions. Therefore due to the deductive development from ground theory, the proposed model could be interpreted as an underlying structure of the inductive models. This provides evidence that deductive and inductive research are complementary rather than substitutes.

Finally, the reciprocal nature of the constructs and the focus on symmetry and on surplus that has to be created in interaction has two implications. First, this fits well with the characteristic of industrial markets in which symmetrical business relationships dominate (e.g. HANKANSSON/SNEHOTA 1995) rather than simple stimulus-response thinking as in consumer markets. This makes the model very attractive to investigate services in business markets. Second, related to the focus on symmetry, the proposed model seem to be applicable to investigate service quality from the customers point of view but as well from the perspective of the supplier. Service quality deduced from property rights theory therefore indicates toward an overall assessment of quality in business relationships.

5. Conclusion

The objective of this paper was to investigate the impact of attenuated property rights on perceived quality in business services. To accomplish this, first evidence for the relevance of business services was provided. In terms of the quantitative scope in the economy as well as concerning "new" developments of management concepts like "performance contracting" and "full service delivery", services and the delivery of appropriate service quality are important issue for achieving competitive advantages. Despite this relevance serious deficits and confusion in marketing research of service quality could be identified. These deficits are a danger since marketers need to understand service quality in order to participate successfully on the growth and increasing importance of business services. The unsatisfactory state of research is supposed to be rooted in the missing theoretical foundation and the sole focus on measurement issues and raw empiricism coming from data to theory. Therefore, in this paper a strictly theoretical deductive perspective was chosen. Services are investigated from a new institutional economic point of view and implications are deduced from the property rights theory. The "old" and "new" property rights approaches have been presented which both provide the theoretical foundation, for identifying the determinants and dimensions of market uncertainty in a service context. A conceptual model as a framework was developed from which hypothesises for the relationships between determinants and dimensions of quality uncertainty are derived. Further, the impact of these constructs on the overall evaluation of service quality and commitment in business relationships are proposed. The operationalization of the constructs and an empirical test of the model remain for future research. The task to derive implications for the marketing management of services from a property rights points of view also promises interesting insights but grounded in theoretical foundation. The emphasis on value creation and effectiveness distinguishes the property rights approach from the sole cost and efficiency perspective of transaction cost theory.

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