

# Intangible Resources - a Categorial System of Knowledge and other Intangible Assets

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## Abstract

There are several strands that cope with particular intangible resources, such as intangible assets, intellectual, human, and organisational capital, data and information, knowledge and capabilities. However, by now there are no attempts to define and identify all intangible resources systematically in one framework. In this paper, an exhaustive and exclusive categorial system of all intangible resources shall be generated. With such a categorial system we are in the position to identify and locate the uncountable number of 'real world' types of intangible resources more precisely and efficiently. Furthermore, with such an attempt it may become clearer how to cope with different types of intangible resources, how to gather, create, use, share and develop them more appropriately.

**Keywords:** intangible assets, knowledge, categories, categorial system, grounded theory, logico-deductive

**Suggested track:** I. Intangible assets and social, intellectual and cultural capital

## 1. Introduction

Since the beginning of the 1990s at the latest practitioners as well as academics have ,realized that knowledge was perhaps the critical resource, rather than land, machines, or capital ...' (Earl 2001, p. 215). In business and management studies there are several strands trying to identify, understand and manage knowledge and other intangible assets, such as:<sup>1</sup>

- a) *intangible assets* from a financial accounting perspective (IAS 38 2003, FASB 2001a, b, 2003)

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<sup>1</sup> For a systematic overview of the strands mentioned and a discussion of their implications for management and innovation see Diefenbach 2005.

- b) *intellectual, human and organisational capital* in performance measurement and performance management approaches (Diefenbach / Vordank 2004, Neely 2002, Kaplan / Norton 2001a, 2001b, Sveiby 1998, Edvinsson / Malone 1997, Kaplan / Norton 1992, Sveiby/Lloyd 1987)
- c) *data, information and (explicit) knowledge* in the fields of ICT (information and communication technologies)
- d) *value drivers and capabilities* of organisations addressed by resource-based view (Grant 1991, Barney 1991, Prahalad / Hamel 1990, Wernerfelt 1984)
- e) *knowledge* being coped with by different schools of knowledge management (Holsapple/Joshi 2002, p. 52-55, Chua 2002, Alavi/Leidner 2001, p. 109-113, Staples et al 2001, p. 9-10, Teece 1998, Demarest 1997, Zander/Kogut 1995, p. 79, Nonaka / Takeuchi 1995, Nonaka 1994, Bohn 1994, p. 63, Collis 1994, p. 144-145, Nonaka 1991, Itami/Roehl 1987)
- f) *human, social and cultural capital* in some sociological concepts (Bourdieu 1983, Granovetter 1973).

These different approaches and perspectives contribute much to our understanding of how people, networks, organisations, economies, and societies depend on and cope with '*intangibles resources*' (in the following this term is meant and used as a general term for all intangibles mentioned above). The strands have their specific advantages and limits and they are conceptualized for different purposes. Perhaps of the number of these strands and their different focal points one question arises almost automatically: *What exactly "are" intangible resources?*

In some strands there are serious attempts to define and identify specific intangible resources as precisely as possible, e.g. financial accounting, performance measurement, and ICT. Other approaches provide very general or far too many definitions (e.g. knowledge management<sup>2</sup>) or no precise definitions at all and only anecdotal evidence (e.g. resource-based view). The provision of several examples, as interesting and helpful this might be for gaining (new) insights, is not sufficient for a systematic investigation into the problem of identification, management and development of intangible resources in general. The more examples are provided by academics and by / for practitioners, the less clear become the object(s) of reasoning. Much more, the different strands relate to each other very little, if any. And since all strands concentrate only on some specific intangible resources another question occurs immediately: *In which different types or categories can the whole universe of intangible resources be differentiated systematically?*

By now there has not been such an attempt to define and identify all intangible resources systematically. Irrespective, or better because of numerous approaches there is still no clarity about a general definition of intangibles and criteria for an identification of different types (Gröjer 2001, p. 698). There is a lack of the larger picture.

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<sup>2</sup> For example, Alvesson / Kärreman 2001, p. 997-1000 describe the concept of knowledge as inconsistent, vague, broad, two-faced and unreliable.

In this paper it shall be tried to formulate such a *comprehensive and detailed categorial system of intangible resources* that will enable us to identify as well as differentiate between different types of intangible resources systematically and precisely.

This might be helpful in a number of ways. Classifications are a 'heuristic device', a 'help construction' for interpretation and understanding (Gröjer 2001, p. 696). To cope with issues (here: types of intangible resources) not only on the basis of anecdotal evidence but as systematically as possible helps us to see better what they have in common and where they differ (Bowker / Star 2002, p. 232). Such a map or framework 'facilitates [our] understanding of the world through simplification.' (Gröjer 2001, p. 698). And it is not 'merely' about a theoretical understanding. There are practical implications, too. Ill-defined terms lead to a poor understanding of reality and, hence, bad decisions and poorer outcomes. In contrast, precise terms and clear identification of the objects of reasoning do not only contribute to a better understanding but also to a better managing of our personal, organisational, and societal affairs. As Bohn 1994, p. 71 put it: 'Knowing where knowledge resides for the process you are managing is important for effectively managing and using that knowledge. It has implications for accessibility, transmission to new locations, and ability to extend the knowledge, among other things.' In the conclusion we will draw the attention to another, decisive advantage of categories and such a categorial system. But for now the question is how do we come to such a system and its categories? In this paper two approaches will be used for this:

Following the idea of comparative analyses by grounded theory (Glaser / Strauss 1967, particularly pp. 23-24, 31-43) it will be referred to some of the approaches mentioned above in order to find out which intangible resources have been identified so far<sup>3</sup>, how types of intangible resources, that share common attributes, can be grouped together, which categories emerge, and how these categories can be defined. This gradually leads to the creation of the whole categorial system.

At the same time, that categorial system was created in a logico-deductive process.<sup>4</sup> Having defined intangible resources as the objects of reasoning and by which leading principles it will be looked at them, the class of intangible resources will be broken down into categories or sub-classes with the help of precisely formulated attributes (Gröjer 2001, p. 699). The combination of three attributes based on classical logic leads to 8 categories of which 2 are logically not possible. For the remaining six categories empirical evidence is provided by the first approach.

In the second section it will be described what we mean when we are talking about intangible resources and it will be demonstrated by which leading principles this class of objects of reasoning can be identified and described. In the third section different types of intangible resources that share common attributes will be gradually grouped together to categories. In addition, general definitions of these categories will be provided and it will be precisely demonstrated how they differ. Finally, the fourth section provides an

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<sup>3</sup> According to Glaser / Strauss 1967 p. 144 data and empirical evidence do not have to stem necessarily from field work but can be gained, for example, from published research.

<sup>4</sup> For comments on categories, methodological and logical issues of classification and classifying see, for example, Bowker / Star 2002, Gröjer, 2001, Carr 1992, and Thompson 1983.

overview of the whole categorial system (see table 1 and 2) and its possible contributions to formulating theory as well as our attempts for a better understanding and coping with intangible resources.

## 2. Definition of intangible resources and a leading principle for the categorial system

At first we need to get an idea what we are thinking about, the object of reasoning. What does the term 'resources' mean or could mean? In economics and business studies there are other terms such as capital, assets, goods, or commodities. These terms can have very specific, usually a narrow market-oriented meaning which is too little to capture the whole breadth and depth of intangibles. This can also be the case with resources but there are attempts to define them more generally. For example, De Gregori 1987, p. 1241 defines resources as 'usable and serviceable to human beings'. Obviously, this is an anthropocentric view which is still quite common and dominant in economic reasoning.<sup>5</sup> But he provides an even wider definition of resources which shall be followed here; they are defined as a *'functional relationship'* (p. 1243). I think this is the very basic idea of resources in a most general sense; it describes a relation, it is a relational term. In this sense, resource means anything that is or could be entirely or partly of some use for something else – whatever these 'things' are and however the use and ends are defined and interpreted.

We also need an idea about what the term 'intangible' means. For this, it shall be followed classical logic, a dichotomous view of the world respectively in the sense that there are either intangible or tangible objects.<sup>6</sup> Hence, one characteristic of intangible objects is that they are immaterial, i.e. of non-physical existence; it is the idea, not the paper on which it is written. It is the algorithm ('software') and not the CD on which it is stored. Intangible objects are not matter or a thing one can touch literally. They do not have spatial measures or weight. Therefore, immateriality / non-physical existence can be seen as one criterion of demarcation.

Secondly, all intangible objects are renewable *after* they have been used. However, there are some tangible or material resources that have the same characteristic (mainly renewable resources, i.e. plants, trees, ecosystems or working animals). So, whereas the ability to regenerate is a criterion of all intangible objects it is not a criterion of demarcation between intangible and tangible resources.

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<sup>5</sup> It should be mentioned that he precisely distinguishes between an anthropocentric and an 'anthropo-egoistic' view: 'To say that the term "resources" essentially has no meaning apart from a relationship to human beings does *not* mean that all things have a right to exist only to the extent that they serve human beings. We can speak about the living resources of planet Earth. We can argue that we *ought* to preserve and protect them. Calling them resources and saying that we should act in certain ways, then, means that there can be an operational meaning to the effect that it is in our best interest to preserve as large a genetic heritage as possible ... We can also argue that other living things have *rights* apart from their service to us.' (De Gregori 1987, p. 1242).

<sup>6</sup> In this paper we can abstract from problems of physics such as whether light, (wind and sun) energy, electricity, or waves in general as well as other forces either are of material or non-material nature or perhaps represent a third type of being. It is planned to cope with such boundary problems in another paper that concentrates on the identification of all, i.e. tangible and intangible resources and their decisive attributes and differences.

Thirdly, intangible resources seem to have the ability to change *while* they are being used. Again, this is also true for tangible assets. The crucial question is *how* they change. Classical (material) resources like raw materials or working materials as well as renewable resources decrease while being used. This all is also the case for intangible resources. However, in addition they have the characteristic that their stock can *increase* while being used. For example, to use knowledge in a conversation and further it as information to another person leads often to the result that the amount of knowledge has increased – probably for both parties.<sup>7</sup> This characteristic - a (possible) increase while being used - seems to be the decisive criterion of demarcation against tangible assets.

Taking all three criteria together intangible resources might be defined as follows: *An intangible resource is everything of immaterial existence used or potentially usable for whatever purpose that is renewable after use and decreases, remains or increases in quantity and/or quality while being used.*

Having defined intangible resources and distinguished them from tangible/material resources we now have to think about how we look at them. Investigating objects of reasoning always happens under a certain perspective – an aspect people often forget about. If this shall happen deliberately and explicitly we need to formulate a *leading principle* (Thompson 1983, p. 336). There are several possibilities to look at intangible resources, to identify and classify them on the basis of a leading principle. One might be the purpose, i.e. for which ends resources are being or should be used. Another principle could be the way how intangible resource are being or should be treated, i.e. how to get, use, store, retrieve, nurture, train and develop them. Or the content could be a principle, i.e. what intangible resources are particularly about. Another principle could be the location, i.e. where intangible resources are or could be found. The classification of intangible resources developed and suggested in this paper will be based on this leading principle. Why? It is not better or worse, more or less important than the others.<sup>8</sup> And all are quite self-evident. The decision for the principle of location has perhaps a more pragmatic reason. By now, most of the knowledge management and intangible assets approaches have the aspect of location in their very centre. Nonaka's four modes of transformation of tacit and explicit knowledge (internalisation, socialisation, externalisation, combination, Nonaka / Konno 1998, p. 43) are much about where knowledge is located and how its location changes. In ICT most problems of storage and retrieval or communication are again about where data and information are, how they change their location, and how this can be organised best. Performance can only be measured and managed when it is clear where these capabilities called intellectual, human and/or organisational capital exactly are. Financial accounting and resource-based view are also keen to identify and locate organisational values. In one word: Location of intangible resources matters.

Now, as mentioned above, intangible resources are no material objects. It therefore

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<sup>7</sup> Of course, misinformation (e.g. lies, propaganda or some types marketing) can lead to a decrease in knowledge.

<sup>8</sup> As far as I know by now there is no categorial system of intangible resources based on these principles (e.g. purpose, treatment, content).

may sound confusing to talk about their location. They are, of course, not somewhere in a physical or spatial sense. But they do exist in several and different media. And one way or one aspect of identifying them is to look at in what medium they are generated, stored, used or developed. Skills, for example, can be only in living beings, working skills (in the sense of producing or making something deliberately in order to use it as a tool over time in different situations) only in human beings, social capital only amongst particular people, and so forth. And for some intangible resources it is quite difficult to identify where they are located. Think about organisational culture, routines or technologies. Nonetheless, in the following it will be demonstrated that all intangible resources can be differentiated into several types as well as located.

### 3. Categories of intangible resources

Since we now know what we are looking for - intangible resources under the leading principle of location - we can go one step further and try to identify or find such objects.

a) Obviously, some intangible resources can be 'in our heads' or belong to us, such as:

- tacit knowledge based on and comprising qualifications, experiences, skills and abilities of an individual
- individual feelings and values, hopes and objectives
- personal health, wellbeing and manpower
- individual competence of assessing, deciding, acting and behaving
- personality
- formal qualifications and degrees (legally protected)

The common special quality of these intangible resources is that they belong to a certain person – and *only* to him or her. Hence, one first attribute for differentiating intangible resources into several categories might be whether an intangible resource is *linked to a particular individual*. In economics and business studies this category of intangible resources is usually called *human capital*. Quite often it is meant in a narrow sense as (extended) vocational training and job-related qualifications. In contrast, human capital is understood here in a much broader sense (Bourdieu 1983, pp. 185-186) and shall be defined as tacit knowledge and individual competence for managing oneself and for (inter-)acting within or with one's environment.

b) Of course, some of the types mentioned above and others can reside in more than one person, for example:

- personal / informal relations, social norms, feelings and traditions between people knowing each other
- not contractually regulated aspects of formal relations, e.g. trust, commitment, engagement, expectations, obligations ('psychological contract', Coleman 1988, pp. 95, 102 - 105)

- social competence (ability for discourse, conflict and cooperation)
- power and reputation based on personal characteristics
- personally produced services, (legally protected)

The common characteristic of these empirical types is that they are 'between' or shared by people. Moreover, this category of intangible resources also meets the first attribute, i.e. it is particular individuals who share them - and usually know each other directly, have some kind of direct links or relation (Bourdieu 1983, p. 191, Coleman 1988, pp. 100-101). Since Granovetter 1973 this category is called *social capital*. As Gant et al. (2002), p. 296 explain the term social capital refers to 'both to the network of relationships that exist among individuals in some group and to the assets that are mobilized through the network of social relationships.'<sup>9</sup> In this sense, a second attribute for differentiation shall be whether or not intangible resources are being shared by two or more individuals who have a personal relationship. If this is the case, intangible resources belong to the category of social capital that can be defined as interpersonal relations and the aspects resulting from such relations for which there is no external reason (e.g. contractual or legal claim, social position).

c) Furthermore, there can be intangible resources that are being shared by two or more people (second attribute) but are not linked to particular individuals (first attribute). We talk about intangible resources that, so to speak, 'do not care about specific individuals', for example:

- language
- cultural traditions and heritage, national trait
- corporate culture, working climate, informal rules
- social norms, values, rules
- law (legally protected)

Even if people leave the system or individuals change the intangible resources remain because they are deeply embedded in all kind of institutions and routines. With Bourdieu 1983, pp. 186, 189 this category of intangible resources can be called *cultural capital*. Cultural capital describes official and informal norms, values and rules of a particular community (dyad, family, peer group, organisation, society, nation, people, mankind).<sup>10</sup> Because of the fact that cultural capital usually is lived and practiced on a more or less daily basis, it is not only embedded in 'abstract' institutions but internalised, incorporated in the members of that particular society (Bourdieu 1983, p. 185).<sup>11</sup> Human,

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<sup>9</sup> For a comprehensive overview of different definitions and interpretations of social capital see in particular Nahapiet / Ghoshal 1998, pp. 243-245, also Freitag 2001, pp. 4 - 7 or Leana / Van Buren 1999, pp. 538 and 539.

<sup>10</sup> Of course, this neither means that there is *one*, coherent and consistent (monolithic) set of these norms and rules nor that the people belonging to this society necessarily always follow them or accept them. It is only meant that these values, norms and rules *by and large* dominate and influence people's opinions and actions to a certain extent.

<sup>11</sup> Bourdieu describes a third form of cultural capital that is embedded in goods, pictures, books, instruments or machines. That type of intangible resources will be referred to further down.

social and cultural capital mingle within the individual in the processes of socialization, education and daily actions and interactions with others. It usually expects too much of the average individual to reflect fully on these intangible resources, to clearly differentiate between them and to assess how and why they are or are not, should be or should not be.

d) Like cultural capital, there are other intangible resources that are being shared by people without being linked to particular individuals. Examples are:

- role, social position
- power, status and influence related to a position (definition, disposition, and decision power)
- rights and duties related to a position

Like cultural capital they are not linked to a particular individual (first attribute) but located in two or more individuals (second attribute). But in contrast to cultural (and human as well as social) capital they are exclusively identifiable and, hence, *transferable*. Whoever holds the position gets access to the intangible resources linked to it. Such types of intangible resources I call *statutory capital*. This category describes person-independent positions in a social system and the exclusive possibilities and responsibilities arising from or linked to such a position or role. With the identification of that category we have introduced a third attribute – transferability. It means that an intangible resource can not only be held or even owned by a possessor or owner. Much more, and in contrast to human, social and cultural capital, the intangible resource is transferable as a specified unit, i.e. its possessor or owner can change.

e) There are other intangible resources that are transferable.

- data (symbols, signs), information
- explicit knowledge
- intellectual property (company's name and logo, trademarks, drawings, formulas, software programmes, copyrights, patents, licenses, quota, internet domains, portals)<sup>12</sup>
- contractually regulated aspects of formal relations between parties (rights and duties)

Like statutory capital these types are not linked to a particular individual (first attribute) and transferable (third attribute). But, unlike statutory capital, they are not necessarily linked to any people. Such types of intangible resources can be isolated and piled up, they exist on their own even - if there are no people at all. All what it needs is some kind of information medium on which they are recorded, e.g. paper, ICT-media or any other physical carrier. Think about Egyptian hieroglyphs written in stone that had least for centuries as informational capital without anyone knowing their meaning. However, usually people know their meaning – and their value. Such intangible resources I call

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<sup>12</sup> Some of these count as 'intangible assets' from a financial accounting perspective. For precise criteria of their definition and identification as such goods see Diefenbach 2205, for the whole state-of-the-art and discussion of intangible assets in financial accounting see IAS 38 2003, FASB 2001a, b, 2003.

*informational and legal capital.* Informational and legal capital can be defined as any explicit meaning of something that can be identified and demarcated individually without being necessarily internalized, shared or understood by one or more individuals.

f) Finally, there is a sixth type of intangible resources. Besides having the general attributes of intangible resources (immaterial, renewable, ability to increase while being used) they do not meet any of the three special attributes, i.e. they are neither linked to a particular individual or are being shared by more people nor are they transferable. I call them *embedded capital*. Examples are (Demarest 1997, p. 378):

- immaterial infrastructure (hierarchies, government, planning, information, communication, coordination, administration, and controlling structures and processes, channels of procurement and distributions)
- organisational knowledge and abilities embedded in technologies and models
- routines
- knowledge embodied in processed or produced goods (,artefacts')

Embedded capital might be defined as non-separable explicit knowledge embedded either in immaterial structures and processes or material goods (,artefacts').<sup>13</sup>

#### **4. The complete categorial system**

Referring to many types of intangible resources identified by different strands and based on empirical evidence in the previous section, six different categories of intangible resources were identified in the sense of grounded theory. Table 1 below provides an overview of the whole categorial system, i.e. all six categories of intangible resources, their attributes, definitions and empirical examples.

The proof that this system covers all possible types of intangible resources can be given by a logico-deductive approach. The differentiation between categories took place with the help of three attributes (1 linked to a particular individual, 2 located in two or more individuals, 3 transferability). Following Aristotle's or traditional logic an object either has or does not have an attribute (Bowker / Star 2002, p. 62). Hence, from a logical point of view there can be 8 possible combinations of the three attributes.

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<sup>13</sup> Although proponents of resource-based view usually describe their objects of reasoning quite vaguely (e.g. Wernerfelt 1984, Prahalad / Hamel 1990, Grant 1991, Barney 1991) there seems to be some similarity between embedded capital and organisational value drivers, core capabilities.

physical state	immaterial					
stock renewable	yes					
change in stock while use	decreasing, retentive, increasing					
linked to a particular individual	yes	yes	no	no	no	no
located in two or more individuals	no	yes	yes	yes	no	no
transferability	no	no	no	yes	yes	no
carrier	individual	individuals („interpersonal system“)	society, community („suprapersonal system“)	role, position	physical medium, legal entity	structures, organisations, things
category	human capital	social capital	cultural capital	statutory capital	informational and legal capital	imbedded capital
definition	tacit knowledge and individual competence for organising oneself and for (inter-)acting within or with one's environment	interpersonal relations and the aspects resulting from such relations for which there is no external reason (e.g. contractual or legal claim, social position)	official and informal norms, values and rules of a particular community (dyad, family, peer group, organisation, society, nation, people, mankind)	statutory capital describes person-independent positions in a social system and exclusive possibilities and responsibilities arising from or linked to such a position or role	any explicit meaning of something that can be identified and demarcated individually without being necessarily internalized, shared or understood by one or more individuals	non-separable explicit knowledge embedded either in immaterial structures and processes or material goods („artefacts“).
types of resources	tacit knowledge based on and comprising qualifications, experiences, skills and abilities individual feelings and values, hopes and objectives personal health, wellbeing and manpower individual competence of assessing, deciding, acting and behaving personality formal qualifications and degrees (legally protected)	personal / informal relations, social norms, feelings and traditions between people knowing each other not contractually regulated aspects of formal relations, e.g. trust, commitment, engagement, expectations, obligations („psychological contract“) social competence (ability for discourse, conflict and cooperation) power and reputation based on personal characteristics personally produced services (legally protected)	language cultural traditions and heritage, national trait corporate culture, working climate, informal rules social norms, values, rules law (legally protected)	role, social position power, status and influence related to a position (definition, disposition, and decision power) rights and duties related to a position	data (symbols, signs), information explicit knowledge intellectual property (company's name and logo, trademarks, drawings, formulas, software programmes, copyrights, patents, licenses, quota, internet domains, portals) contractually regulated aspects of formal relations between parties (rights and duties)	immaterial infrastructure (hierarchies, government, planning, information, communication, coordination, administration, and controlling structures and processes, channels of procurement and distributions) organisational knowledge and abilities embedded in technologies and models routines knowledge embodied in processed or produced goods („artefacts“)

linked to a particular individual	yes	yes	yes	yes	no	no	no	no
located in two or more individuals	yes	yes	no	no	yes	yes	no	no
transferability	yes	no	yes	no	yes	no	yes	no
category	none*	social capital	none*	human capital	statutory capital	cultural capital	informat. and legal capital	embedded capital

Table 2: Logico-deductive classification of intangible resources based on three attributes.

However, two combinations are not possible (\*). If something is linked to (a) particular individual(s), like human and social capital, it cannot be transferred. Basing the categorial system on classical logic and dividing the sub-classes logically according to clearly formulated attributes guarantees that all intangible resources are being included and, therefore, that the system is complete.<sup>14</sup> In a more methodological sense: The categorial system is a) exhaustive, i.e. 'all objects of the universe of discourse can be classified', and b) exclusive, i.e. 'no object can belong to more than one class.' (both Gröjer 2001, p. 703).<sup>15</sup>

With such a categorial system we are in the position to identify and locate the uncountable number of 'real world' types of intangible resources more precisely and efficiently. Furthermore, with such an attempt it may become clearer how to cope with different types of intangible resources, how to gather, create, use, share and develop them more appropriately. It is about the implications and consequences for the management of intangible resources on an individual, group, organisational, and societal level. But for this, we need more than only categories. According to grounded theory next steps would be to formulate substantive and formal theory (Glaser / Strauss 1967, pp. 79 ff.<sup>16</sup>) – or to refer to already existing theories in that field. We need more theories that do not only explain the management of intangible resources and in particular knowledge in a technical sense but that also refer to different purposes, ends, leading principles and basic assumptions (Diefenbach 2003), i.e.: For what intangible resources are

<sup>14</sup> The completeness of the categorial system does not depend on the number of attributes chosen. It would be complete whether we had picked e.g. only two or four attributes – which would have led to either four or 16 categories and so on. Since one idea of a categorial system is to be sufficiently detailed, and, at the same time, still clear and practicable, I decided for three attributes, six categories respectively.

<sup>15</sup> For other criteria of classificatory principles, such as consistency, necessity, sufficiency, simplicity, and usefulness see Gröjer, 2001, p. 697-704 and Bowker / Star 2002, p. 10-11).

<sup>16</sup> The whole concept of grounded theory comprises the following steps: 1. gathering data, 2. replication of the facts with comparative evidence, 3. generation of conceptual categories and properties from evidence, 4. hypotheses or generalised relations among the categories and their properties – whereby 3. and 4. are the elements of substantive, finally formal theory (Glaser / Strauss 1967, pp. 23-24, 32-33, 35-43).

good for, for which ends they are being used or should be used? How are they should be treated, how should they be gathered, used, stored, retrieved, nurtured, trained and developed? And which and who's interests are being served by this in which manner? These are perhaps some of the most important questions that are still not answered.

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