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Institutions as Pattern Models for Electronic Markets

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Abstract

This paper analyses electronic markets from a social science perspective, with an emphasis on different types of institutions. An analytical framework which supports the identification of certain institutional settings of electronic markets and its preconditions is developed. The provided method tries to unify the perspectives of methodological individualism and methodological holism.

Economics And Institutions

The Austrian School and Institutionalism try to include institutions within economics, nevertheless they have significantly different philosophical and methodological orientations (Mäki 1993).

Carl Menger - the founder of the Austrian School - distinguishes between two ways how institutions may develop. Either institutions are unintended consequences of human efforts or institutions are the results of intentional planning and design. The first type is called „organic institutions“, the latter one „pragmatic institutions“ (Mäki 1993). According to Menger any existing institution fits either in the first or in the second category and for explaining economic phenomena in their entirety both types are indispensable (Vanberg 1993). For Menger the driving force is the individual, with his/her desires, wishes and efforts. Menger explains institutional evolution on the foundation of methodological individualism. The pragmatic institutions are the result of the calculation of the individual who uses different resources to make his/her vision real. (Feldmann 1995). The existence of organic institutions can be explained by something like an „invisible hand metaphor“. The acting individuals are trying to maximise their utility, by this attempt some kind of behaviour is more successful than another one. The individuals who have discovered the successful behaviour are the early winners, therefore their behaviour will be imitated by the other individuals and so this particular behaviour spreads out and becomes a common social practice, e.g. the use of money, language, law, religion, nations and markets. (Feldmann 1995 and Vanberg 1993)

The institutionalist J. R. Commons has defined institutions as „collective action in restraint, liberation and expansion of individual action.“ (Commons 1934, p. 73 and 1950, p. 21) For him collective action has a strong influence on individual behaviour (Feldmann 1995). We can differentiate three types of institutions (Frey 1990):

Decision systems: Methods and rules that help to make decisions within a society, e.g. price systems, markets, democracy, hierarchies etc.

Norms, tradition and other behavioural norms: All kinds of norms are institutions, some of them are set explicitly by organisations, e.g. the government makes laws, other are more informal but not less important, e.g. norms based on tradition.

Organisations: Organisations are institutions, too; e.g. nations, trade unions, country clubs etc.

This definition of institutions fits to Ayres' (1944, 1952) definition, who is another important institutionalist. He differentiates between functional and structural institutions. (Reuter 1994, p. 239) Decision systems and norms can be regarded as functional institutions; organisations as structural institutions (Brandtweiner, 1997b).

In contrast to the Austrian School Institutionalism regards collective action as the dominant principle that governs social life, so the base unit of institutionalistic analysis is a social entity that consists of more than one individual, therefore they regard themselves as methodological holists (according to J. R. Commons collective action has a strong influence on individual action and sometimes determines individual action) in contrast to methodological individualism of Austrian economics (Reuter 1994).

Institutional economics and electronic markets

Using the theories explained above we can develop a scheme which provides a framework for the classification of institutions existing in the context of electronic markets. This two dimensional scheme covers methodological individualism as well as methodological holism, by using the different types of institutions identified by these methodologies.

We have on the one hand pragmatic and organic institutions and on the other hand structural and functional institutions. An institution might come into existence by rational planning of an individual (pragmatic institution) and is either a structural institution (in the table called „PS“) or a functional institution, whereby the functional ones can be distinguished in decision systems (in *Table 1* called „PFDS“) and behavioural norms („PFBN“). The organic institutions are classified in the same way, there are organic structural institutions („OS“), and organic functional institutions which are divided in decision system („OFDS“) and behavioural norms („OFBN“).

Methodological Holism	Structural Institutions	Functional Institutions	
	Organisations	Decision Systems	Behavioural Norms
Methodological Individualism			
Pragmatic Institutions	PS	PFDS	PFBN
Organic Institutions	OS	OFDS	OFBN

Table 1: Crosstable for institutional analysis

We now have a simple framework which helps to classify institutional settings of electronic markets. Unfortunately the situation is a little bit more complex than it seems in the first moment. As mentioned before markets are decision systems, but are they really just decision systems? According to neoclassical economics markets are just decision systems, because markets are regarded as an ether consisting of the aggregation of individual bargains which simply leads to the physical exchange of the goods. All non-market institutions are seen as alien or unnatural (Hodgson 1988).

But in reality markets have organisational aspects too, i.e. they have a functional and a structural component. But more than that the functional component does not only refer to decision systems but also to behavioural norms. But why do markets exist? - and how do they come to existence? Planned or via natural evolution? Menger thinks via natural evolution (Feldmann 1995) thus he regards markets as organic. Neoclassical economics regards markets as natural state existing independent of social institutions (Hodgson 1988). At this point we know already that this is an oversimplification (Brandtweiner 1997a). Markets are embedded in a certain social and technological environment and the question is just about to what extent they are planned or spontaneous social institutions or which part of them is planned and which is organic?

The question if markets are organic or pragmatic institutions arises for electronic markets too. Pragmatic aspects occur because they are organisations (somebody has to run the infrastructure, i.e. the information systems, somebody has to hire and lead the people who administer the market, somebody has to find suppliers who are willing to sell via the electronic market and finally somebody has to motivate the customers to buy at the electronic market) and last but not least electronic markets have to be constructed, and construction is pure intentional planning. Therefore we can say that electronic markets have pragmatic parts in any case.

Electronic markets include also behavioural norms (e.g. netiquette) and these aspects usually develop in an

organic way thus electronic markets have organic aspects as well. But it is also possible that the whole entity market may develop spontaneously. A good example is provided by different newsgroups, e.g. a newsgroup for baseball fans. It can easily be imagined that in a first evolutionary stage the baseball fans just communicate in the newsgroup. In the following steps they start barter trade with baseball trading cards and if a fan (f1) has a card twice and another fan (f2) wants this particular card but owns no card which is of interest to f1, f2 simply will pay for the card. The physical exchange is made via conventional mail e.g. cheque against card. A 'normal' market where goods are exchanged against money has developed (Brandtweiner 1997b).

We see that the categories provided by the classification scheme (Table 1) are not exclusive, but they provide profound assistance by identifying the main characteristics of an electronic market.

Institutional pre-conditions of electronic markets

In addition to institutional settings described above and necessary for the formation of markets there are pre-conditions which make the existence of markets possible. In this context three major settings are distinguished (Reimers no year, p.4-5): Institutional regime, meta-activities and generative regime.

The institutional regime is a set of institutions generally accepted by society which determines the way in which trading activities are organised, e.g. business law, general terms of trade and also informal but generally acknowledged business principles. The institutional regime may be classified as functional institution which primarily developed in an organic way. An example for meta-activities is the standardisation of data formats. In our terms meta-activities could be defined as functional institutions created by the economic system. Meta-activities could be regarded as functional and pragmatic institutions. Meta-activities are carried out by a type of organisation which belongs to a group using norms. This practice had made this group more successful than those groups who did not. Therefore this behaviour was imitated and had become a common social practice which demonstrates the applicability of Menger's explanation for the evolution of organic institutions. The International Standardisation Organisation (ISO) could be mentioned as a typical example for such a creator. The creators are called generative regime, which is his third category for describing the institutional pre-conditions of electronic markets. Generally, the non-market institutional pre-conditions of electronic markets can be described as framework of laws, standards, norms, and organisations which is provided by society and serves an economic purpose.

Institutions within an electronic market

In electronic markets all institutions which are subject to design and implementation are pragmatic institutions. The 'natural' institutions which have always existed in market-like settings are the organic ones (Brandtweiner, Scharl 1999):

Pragmatic and functional institutions within an electronic market:

- ◆ Intermediation: The electronic market provides an unequivocal virtual place which serves as a meeting place for buyers and sellers.
- ◆ Transportation: The electronic markets (should) support the shipment of traded goods.
- ◆ Managing the market: An electronic market needs an institution specifying rules for transactions and controlling the market transactions.
- ◆ Managing the information system: IS maintenance and improvement are also required.

Organic and functional Institutions within an electronic market:

- ◆ Demand: The activities of customers to satisfy their wants and needs.
- ◆ Supply: The activities of businesses to sell their products.
- ◆ Pricing: An institution that serves as equalising mechanism between supply and demand.

Pragmatic and structural institutions:

- ◆ Market administration: Organisational unit managing and controlling all market related activities.
- ◆ Systems administration: Organisational unit managing and controlling all IT- related activities.

Organic and structural institutions:

- ◆ Buyers (synonyms: consumers, customers, demanders)
- ◆ Sellers (synonyms: suppliers, traders)

Conclusions

The developed table is not a strict categorisation scheme. It simply provides help for identifying genuine qualities of institutions and it is possible or even likely that an institution fits in more than one category. By applying this scheme the scientist does not get just discrete information about a system, e.g. an electronic market but achieves a certain understanding. Thus this approach may be qualified as hermeneutic.

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