Re-classifying and Re-valuing Goods: a case study

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Abstract

This paper examines the notion of value and valuation as it has been developed within the IMP Market Studies tradition. Our key argument is that little attention has been paid to valuation processes and that valuation can be performed using a wide variety of scales. But rather to bring together all these scales under one rubric – e.g. the economist's concept of utility – we propose that economic actors routinely engage in translations of value from one scale to another. We use the term derivation-conversion to show how these translations are performed using illustrations from a case study in the medical nutrition field. We conclude that derivation-conversion is a useful concept to understand how economic actors deal with the profusion of valuation alternatives in markets.

1. Introduction

The notion of value and its derivatives (e.g. value creation, value appropriation, value-in-use) has assumed a prominent role in the industrial marketing literature over the last few years. A quick trawl through *Industrial Marketing Management* identified some 90 articles where the term "value" features in the title. In the IMP literature, the term is invoked less often even if we have witnessed a variety of efforts to define what is value (see e.g. Lindgren and Wynstra, 2005) or to assess the economic value of business relationships (see e.g. Lind and Stromsten, 2006). However, the overwhelming concern with value has not been matched by a focus on valuation. In other words, there has been much interest on how market offerings provide value for an actor (e.g. customer value, perceived value) but little concern on how actors determine the value of an offering (Aspers and Beckert, 2011). And to study valuation, we must return to the notions of how actors qualify and calculate the value of market offerings.

This paper revisits the issue of qualification and calculation that is regarded as central to a research tradition that has recently been labelled the marketisation programme (cf. Caliskan and Callon, 2010). This marketisation programme has been developed within the IMP tradition by the IMP Market Studies group, starting with the 20th IMP Conference in Copenhagen. The IMP Market Studies group has been responsible for editing a special issue of Marketing Theory (see Araujo et al, 2008) and a recently edited collection (Araujo et al, 2011).

The starting point for our discussion is Callon and Muniesa's (2005: 1231) view of calculation as involving three distinct steps. First, entities must be detached from their contexts, classified and ordered within a single space (e.g. a spreadsheet). Secondly, once ordered in that space, these entities can be compared, manipulated and transformed according to particular rules (e.g. aggregating performance indicators at the product level to calculate performance at the store level). Thirdly, numerical results such as a ranking of products or suppliers must be produced that both summarize and represent the entities in that calculative space. The notion of qualification (Callon et al, 2002) is closely tied to the circulation of goods. The quality of a good is progressively determined through trials of qualification and requalification as it moves through different stages (e.g. development to production). These characteristics have to be provisionally and temporarily stabilized to allow transactions to take place but the process of qualification-requalification is never ending.

Cochoy's (2002, 2008) notion of *qualculation* draws attention to the fact that calculations depend on qualitative and quantitative components, metrics as well as judgments. Defining the qualities of objects is integral to their calculability. All measurement systems are made possible by calibration, understood as the creation and determination of quanta (Power, 2004). The creation of quanta is a special case of metrology, which requires technical instruments to make phenomena standardized and measurable. This requires the establishment of frames, the decontextualization of objects, and the grouping and comparing of objects in the same frame. Once quanta are established, they can be subject to further calculative operations.

The issue that interests in this paper is the recursive and referential nature of the processes involved in both qualification and calculation. Economic agents are rarely if ever confronted with qualifying and calculating goods from *tabula rasa*. Faced with novel goods or in attempting to reposition existing goods, agents are faced with the weight of existing investments in calculative agencies and classification schemes. To create new qualifications and valuations of goods, agents must be able to relate these new values to existing qualities and values if they are to be successful. This process of relating novelty to convention, signaling both discontinuity and selective continuity with an aspect of the past is what Lepinay and Callon (2009) describe as derivation-conversion. Derivation-conversion thus signals both the rupture of an existing set of links and the establishment of new ones.

In this paper we propose to look at changes in qualification and calculation through the angle of derivation-conversion. Our aim is to show that the process of derivation-conversion is both pervasive in markets and involves significant investments in creating links and equivalences across multiple and incommensurable classification devices and valuation scales. We illustrate our argument with the example of a company involved in the clinical nutrition field that sought to reposition its products away from a niche market and bring them into the broader market space of pharmaceutical products. This repositioning involved multiple investments across a variety of fronts to link the products with the classification and valuation scales of different types of professionals involved in health and social care. These repositioning processes were represented through laddering diagrams that attempted to specifically link product attributes to the purported valuation frameworks employed by different professionals.

In the next section we will elaborate on the notion of derivation-conversion and show how it relates to the work of qualifying and valuing goods. In the third section, we will briefly report on the choice of methodology adopted in this study before proceeding to introduce the empirical material on clinical nutrition products. The fourth section relates the theoretical notions introduced in section 2

to the empirical material. The final section summarises the contribution of our study and speculates on the significance of derivation-conversion work for our understanding of markets.

2. Derivation-Conversion as a Laddering Process

Our starting point is that markets encompass two types of activities: those that rely on consolidating and routinising existing structures and those that undermine existing structures, producing goods whose value is novel and uncertain and yet, have to be related to existing structures to gain acceptability (Araujo, 2007). The first set of activities paints a picture of markets as organized encounters of distributed calculative agencies, an arrangement of heterogeneous elements including rules and conventions, technical devices, metrological infrastructures, texts, and technical and scientific knowledge, including expertise from the social sciences (Caliskan and Callon, 2010). This view privileges the role of investments in rules and conventions as well as the spaces and technologies involved in calculation (Callon and Muniesa, 2005). The second set of activities depicts markets as evolving entities, spaces where struggles regarding the definition and valuation of goods are confronted and resolved. Notions such as qualifying and valuing goods, making them calculable hints at sets of practices with the potential to destabilize the encounters of distributed calculative agencies on which market exchange rests (Callon et al, 2002).

In both cases, the value of goods is measured through exchanges – the so-called exchange value expressed through the price mechanism. In the case of routine goods, whose qualities and value are well-known, prices can be agreed with relative ease. But this should not blind us to the prices themselves are the result of complex infrastructures of algorithms and tools and the subject of negotiation amongst multiple agencies. In the case of innovations, the valuation of goods is more difficult and uncertain. This does not mean that valuation cannot take place. But it requires a degree of imagination on the part of economic agents to propose new ways of evaluating goods that relating these valuations to existing calculation infrastructures.

One seemingly exotic example illustrates this point. It relates to the exemplary study of exchanges in Atlantic Africa undertaken by Guyer (2004). Guyer's study raises an interesting and important question: how are goods defined and calculated when there is no uninterrupted, unifying infrastructure to support transactions on a routine and univocal basis? In Atlantic Africa, value disjunctures coexist with pervasive asymmetries in how goods are interpreted and transactions

framed. The formality of economic exchange we come to take for granted in the West is either absent or mistrusted.

Economic practice relies on a multiplicity of scales including but not exhausted by ratio scales and numbers. Exchanges occur through what Guyer (2004: 172) calls an "endlessly reflexive mutual referentiality" rather resorting to a common invariant. The construction of exchange episodes occurs through experience and expedience rather than resorting to age-old conventions. And, in the background to exchanges we find the entertainment of asymmetry rather than the Western notion that exchanges have to be symmetrical and balanced.

The multiplicity of value scales that infuse transactions is of great importance to understand how exchanges take place. Guyer insists that a series of scales (nominal, ordinal, interval, ratio) are at play in every transaction. But their use in transactions is not sequential but parallel. Judgments of value step across different scales using what Guyer (2004: 49) calls trope which allows conceptual hooks from one scale to another without reducing anything to a common denominator. In summary, value is created at the margin, in the interstices between different systems of valuation and in the absence of complex infrastructures (e.g. law, finance).

A rather dissimilar example comes from the attempt to formulate a sociology of worth promoted by Stark (2009). For Stark, the term "worth" fuses together concerns about value (as in calculated economic value) and values (as in moral choices). Rather than focusing on value or values, Stark proposes to study ongoing process of valuation and leave open the question of what orders of worth permeate these valuation processes. Each order of worth has its own distinctive principles of evaluation and classifying the world. And these principles are hardly commensurate in practice. Friction or dissonance is to be expected when they are deployed in particular situations. As in Guyer's (2004) example, entrepreneurship is recasted as the ability to keep multiple evaluative principles at play and to exploit the resulting frictions (Stark 209: 15). Organising dissonance to allow for the clash and confrontation of different value frames is seen as the path to wealth creation. Paradoxically, as Stark (2009: 195) emphasises, misunderstandings and asymmetries can facilitate rather than hinder commerce. If parties to a transaction are forced to settle their differences across a broad range of subjects (e.g. meaning and valuation of objects), the gap may be so large that no coordination is possible. If misunderstandings can be contained and accommodated (e.g. by allowing the circulation of objects with widely varied interpretations) each party can arrive at its own understanding whilst preserving the possibility of cooperation. As in Guyer's examples, gains are to be had at the margin, where disjunctures and clashes of different valuation systems take place.

Lepinay and Callon (2009) propose to see the Atlantic Africa story in the broader context of derivation, which they define as the generic mechanism through which goods become valuable. The notion of derivation taken from calculus can be roughly interpreted as depicting how one quantity changes relative to changes in another. To derive a mathematical function is to establish a relationship between two quantities – e.g. the derivative of position versus time gives us a measure of speed. Similarly, in finance the value of a derivative product (e.g. an option) depends on the value of something else such as underlying asset or an index. The process of derivation thus establishes a relationship between the value of a new good and the value of something else which is known and public. Modern finance has produced a plethora of engineered derivative products based on complex mathematical formulae and linking together widely different values across many different economic systems, as the recent global banking collapses exemplify.

Lepinay and Callon (2009) regard Guyer's notion of tropes linking together multiple scales as an example of derivation-conversion. Tropes provide a platform for conversions but unlike the mathematical formulae deployed by derivative traders in financial markets, they do not force associations. These tropes are mobilised in situations of disjuncture, create equivalences across multiple systems of valuation and produce unique valuations. The implication is that in order to succeed at creating a transaction with a mutually agreed valuation, it is necessary to present it as a chain of derivations and calculation of values that are already accepted. In Atlantic Africa as in Western financial markets, economic agents attempt to take advantage of novel situations by tapping into existing systems of valuation, tried and tested elsewhere, and appropriate, combine and fuse them to create value in novel situations (Lepinay and Callon 2009: 270).

Thus we can delineate two ideal types of processes involved in creating different types of goods. In one case, we can imagine a space where goods are already clearly positioned in relation to each other. The assessment of their qualities and performance is consolidated and they can be transacted in a space already equipped with the necessary calculative infrastructures. Valuations can take place within the confines of ratio scales and be reduced to a price.

In the majority of cases however, goods undergo through multiple rounds of qualification and valuation as they progress from conception to end-use. They are hardly ever stabilised as they pass through a number of devices and local processes of qualification which are never fully compatible or converge naturally in one single and definitive qualification (Dubuisson-Quellier, 2011). Each new round of qualification can also be understood as a derivation, in the sense that is a function of the previous qualifications and valuations. In other words, the process of arriving at the valuation of a good – its exchange-value – is not something that is negotiated in a self-contained transaction

episode but is the product of long-chains of derivation-conversion that are systematically related to a broader set of value referents.

From the above discussion we want to retain the notion of derivation-conversion as a way to understand how goods are positioned and become valuable in relation to other goods. We suggest further that derivation-conversion is a key marketing process involved in efforts to position novel goods and reposition existing goods in particular market spaces. More generally, we tentatively suggest that marketing, in its attempts to construct and link different orders of value, is heavily implicated in processes of derivation-conversion as a good moves from conception to end-use. Rather than regarding value as essentially an opposition between exchange value, determined by markets, and use value, as realised in the process of consumption, the notion of derivation-conversion proposes a pluralistic and evolving notion of value, the result of a network of operations and multiplicity of referents that is always being made and re-made by a variety of actors.

One good example of the notion of derivation-conversion is the notion of means-ends chains commonly deployed in marketing and advertising. The means-ends chain model (Gutman, 1982, 1997) is a way to link consumer choices to product attributes. In this model, choices are largely framed by stable consumer values (ends) and product attributes become the means through which ends are satisfied. The claim is that consumers learn to think about products and services in terms of their attributes, and their outcomes in helping to fulfil personal values. The good itself is reduced to its attributes at the lowest level. The remaining levels are outcomes - functional and psychosocial consequences, and consumers' values (Olson and Reynolds, 1983; Reynolds and Gutman, 1988).

The levels suggests a hierarchical ordering with the achievement of personal values, held to be constant over long periods of time, being facilitated, or caused by consequences at the lower levels of abstraction (goods attributes). Laddering is the recommended approach for eliciting means–end chains (Reynolds and Gutman, 1988). In laddering, respondents answer a chain of "why?" questions, starting with the attributes that distinguish more from less-desired alternatives. The underlying assumption as to why a consumer prefers a particular attribute or consequence is that it facilitates the attainment of a benefit at the next hierarchical step in the chain. This series of successive elicitations creates a hierarchical means-ends chain, with each element linked to the elements adjacent to it.

Criticisms of the means-ends approach abound in the literature. Proponents of the approach assume particular organisation of knowledge with concrete thoughts at the good's attribute level, being linked to more abstract thoughts at the level of personal values through a means-ends ladder. The maps produced by laddering techniques are presumed to mirror the hierarchical organisation of the

mind (Bagozzi and Dabholkar, 2000). Capturing the connections between the different levels is essentially seen as a series of inference-based judgments. More trenchant critiques (see e.g. Whitford, 2002) regard the separation of means-ends as essentially a way to lend realism to rational choice theory by anchoring preferences in stable beliefs and values.

But, even if consumer ends-means chains provides an inadequate framework to link purchase decisions to values, the broader notion of laddering is still interesting as a way to investigate how links can be established across multiple and incommensurate scales of valuation – Guyer's (2004) tropes. More specifically, we are interested in how laddering is used to reposition goods in market spaces and to relate benefits to a variety of existing scales of valuation. In our empirical case, a company producing a sales aid for a drug designed to alleviate a particular health condition uses the heuristic of laddering to convert product features into specific benefits that can relate back to the health condition in question.

Using a laddering as technique to relate a good to a market raises a number of interesting issues that invoke the notion of derivation-conversion. For example, the process of establishing benefits for a particular constituency and relating the physical attributes of a good to benefits often requires a process of derivation-conversion that needs to be substantiated by tests, trials, and experiments. In short, establishing a means-ends chain requires a long network of associations relying on techno-scientific knowledge and social science expertise (Latour, 1987). For example, benefits need to be translated in terms of cost-benefit analysis, productivity or resource efficiencies at different levels. In other words, the process of derivation-conversion needs to link up with metrological systems, with calculative devices that can produce a measurement that can be benchmarked against a standard, and thus appeal to a specific audience (Power 2004; Callon and Muniesa, 2005).

3. Method Note

The company that served as the basis for our empirical study is the clinical nutrition division of a large food company, that we will call here MediNut. Our paper is based on the analysis of the documentation produced by the marketing people to reposition the concept of medical nutrition and present it to various stakeholders. With the help of medical and scientific key opinion leaders, marketers of the company were able to generate numbers, ways of presenting arguments or to illustrate them in a compelling way. Such argumentation processes are particularly visible in the detail aids created for medical visitors when exposing the benefit of their offer in front of Health Care professionals (HCPs) including GP's, specialists, nurses or nutritionists. In the process of defining a reimbursement rate of the products, a similar documentation was produced to

demonstrate the cost benefit ratio of products in front of economists from the ministry of health. At a local level, hospital economists are exposed to similar argumentation processes generated by Medinut marketing people to persuade them to list products that address one specific medical need. The documentation (leaflets, reports, detail aids, training DVDs, Powerpoint presentations) referring to 3 spheres of intervention has been collected by one of the researcher: the scientific, the regulatory and the public arenas. Ten complementary interviews were carried out with managers of the marketing, regulatory, medical and sales department to understand the processes of generating the evidence presented in the documents

4. Re-classifying and re-valuing clinical nutrition: a case study

The company that served as the basis for our empirical study is the clinical nutrition division of a large food company, that we will call here MediNut. Clinical nutrition as medical field covers all the types of foods given to patients with the objective of enhancing the recovery of specific diseases. It is seen as a multidisciplinary scientific field with its own societies (e.g. European Society for Clinical Nutrition and Metabolism), meetings and journals (e.g. Clinical Nutrition). Clinical nutrition includes oral nutrition that can be given to patients who can still eat and drink normally but need specific kind of nutrients. It also deals with endonutrition which covers nutritional solutions delivered to patient who are unable to swallow and therefore need to be in-tubed.

Creating Advanced Medical Nutrition

Medinut is a company that had the vision in the last decade to take clinical nutrition to a different level. Instead of positioning clinical nutrition as the delivery of oral supplements or nutritional ingredients for dietary deficiencies, management decided that clinical nutrition should be repositioned as a medical therapy, a credible alternative to certain drug treatments. Whereas the traditional approach was that products were there to help people who cannot eat, lack specific nutrients or have special nutritional needs, a broader approach repositioned clinical nutrition as helping to alleviate disease symptoms, or even delay the progression of certain diseases. Nutritional intervention should be perceived as a therapy that positively impacts clinical outcomes. The mission of the company became to improve and extend vulnerable people's lives through Advanced Medical Nutrition (AMN).

Before this repositioning exercise, clinical nutrition was regarded as irrelevant by most medical practitioners: it had a low awareness, a low credibility and therefore generated low prescription

rates. Medinut faced the challenge to reposition the category to make it relevant to prescribers and consumers alike. Based on evidence, there was a clear opportunity to elevate the status of clinical nutrition to deliver genuine value in terms of clinical outcomes. This was perceived internally as a paradigm shift in the way the company should approach the market.

The concept of AMN became the route to remove hurdles for the application of clinical nutrition by medical practitioners who thus far failed to see its value or relevance. The arguments of clinical nutrition were traditionally deployed to explain dietary supplements to nutritional experts on nutritional grounds. AMN wanted to position nutrition as a vehicle to deliver interventions with positive clinical outcomes. AMN became a way of engaging clinical specialists through chains of evidence that stressed the potential value of nutrition as an intervention which could help them achieve their goals in say, oncology, heart disease, or diabetes, by complementing other treatments. Engaging the specialist in their own field say, oncology or gerontology, required evidence of effects which can be supportive of the disease intervention model they currently use. For example, in cancer therapy the building up muscle bulk in a wasting disease allows the clinician to prescribe chemotherapy treatments for longer thus increasing the likelihood of remission. This evidence can be direct or circumstantial but still be compelling because the downside of intervention with nutrition is so low i.e. there are no implicit safety concerns or known side effects so the principle 'do no harm' is automatically fulfilled.

Establishing the evidence and specialist endorsement of the value of AMN paved the way for general medical practitioners (GPs) and other clinical groups to use nutrition on a wider basis. GPs would gain legitimacy and the opportunity to use AMNs across a wide range of patient types reflecting the value of nutritional products. Nutritionists would gain a new perspective on the merits of AMN (versus traditional clinical nutrition) and understanding of its health economic value as well as individual patient benefits

There are some important factors driving the growth of clinical nutrition. An ageing population in most Western countries leads to conditions which affect lifestyle. The issue of the probability of death before the age of sixty across the globe is beginning to receive some attention from public health officials. The World Bank and the World Health Organization report adult mortality risks through the 45q15 measure – the probability that an individual who just turned 15 will die before the age 60 assuming that the risks related to age-specific mortality remain constant throughout the individual's life (see Rajaratnam et al, 2010). The evidence is that mortality rates according to 45q15 measure are broadly falling across the globe over the last few decades even if in some areas (e.g. Africa) have barely seen improvements (e.g. as a result of particular epidemics such as AIDS).

Populations in Western Europe live longer but have to suffer more years in comparatively poor health. The growth trend of "unhealthy years" is forecasted to rise, generating the need for complementary treatments with oral nutritional supplements that can improve life quality. The following diagram shows that the business potential resulting from these structural factors will generate a growing market for companies addressing the issue of mal-ageing. In the next section, we will focus more specifically on one type of disease that our focal company sought to address.

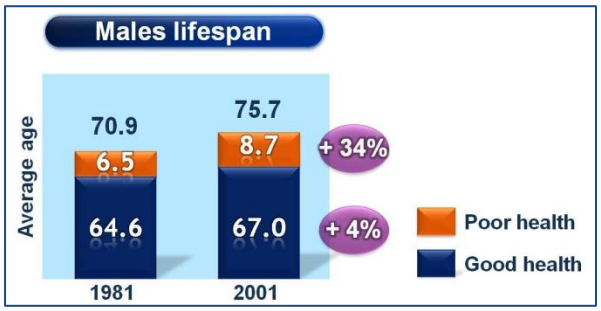


Figure 1: Males lifespan (source WHO 2008 report)

Sarcopenia: defining the issue

The progressive ageing of the population worldwide will inevitably lead to an increasing demand and expenditure on long-term care. This represents a serious public health and socio-economic issue with increasing societal resources being devoted to long-term care. Nursing home care is seen as the solution to look after elderly citizens who are no longer able to look after themselves. This loss of independence may occur as a result of many factors. One of these factors is the loss of mobility due to loss of muscle mass, strength and endurance. This loss has been labelled sarcopenia (Greenlund and Nair, 2003). Sarcopenia can occur in all individuals to varying degrees due to ageing, but can be exacerbated by other factors such as inactivity, poor nutrition or chronic illness. The following diagrams show the effect of sarcopenia on the muscle mass over time by ageing subjects.

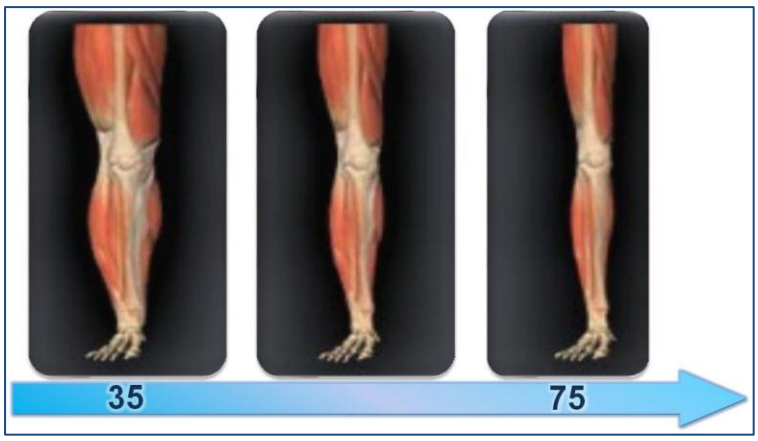


Figure 2: Muscle mass evolution over time (source: HCP leaflet)

The peak in muscle mass and strength is reached between 20-35 years old. At 60 years, 20% of muscle mass expressed in terms of thousands of fibres is lost, as shown in the following diagram

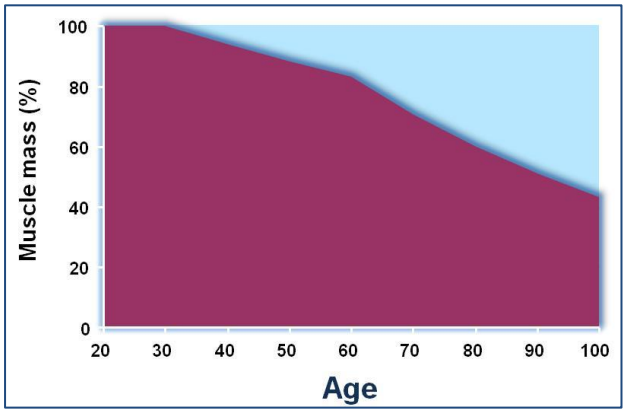


Figure 3: Muscle mass evolution over time (source: HCP leaflet)

The reduction of the skeletal muscle mass results in the inability to function normally. Most of the subjects suffering from sarcopenia cannot stand alone, take a shower, or go to the toilet. They need a wheelchair and assistance in their daily routines. In short, they lose their autonomy very quickly. This trend can be slowed down by an intake of protein that helps muscle fibres to keep their function. However, the quantity of protein that subjects have to absorb is an important one.

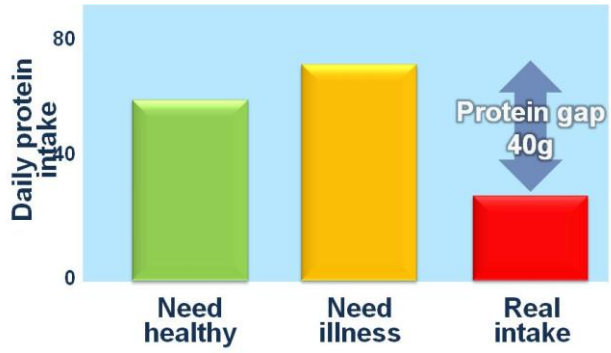
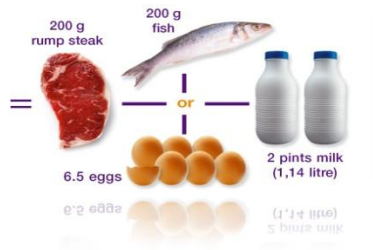


Figure 4: Daily protein intake (source: HCP sarcopenia brochure)

This quantity of protein is often difficult to imagine. Sick people need to eat 40g more protein per day to cover the gap between what they need and what they can feasibly absorb. The following figure depicts this quantity in terms of the equivalent quantity of meat, eggs, fish or milk, which in the case of elderly individuals is impossible to absorb.

Figure 5: Protein gap equivalence (Source: Sarcopenia brochure)



Protinut, a solution to close the protein gap

Within its global AMN strategy, Medinutri developed an oral nutrition beverage called Protinut. This product is involved in the treatment of many diseases such as cancer, chronic obstruction, pulmonary diseases (COPD), and sarcopenia. In this last case, Protinut helps to close the protein gap. Its benefit is to keep elderly patients independent longer (i.e. out of hospitals, nursing homes) because it contains an advanced protein complex that helps build and maintain muscle mass and strength. This positioning fits into a medical logic, since we have a disease model (elderly patients lose muscle bulk, sarcopenia), a medical problem (muscle wasting compromises health and patient independence) and a medical solution (filling the protein gap with Protinut-brand, improves clinical outcomes in elderly patients). To explain this to Health Care professionals, the marketing team has

detailed the effect of elements such as the energy, protein, vitamins, minerals and trace elements rich supplements which improve the nutritional status, functional measures and clinical outcome. Such a description turns generic nutritional supplements into food for special medical purposes (FSMP). This long chain of evidence has allowed the company to have its products widely prescribed by GPs (90 percent of sales) and for patients to be reimbursed in many European countries.

To enhance the possibilities for prescription, the company had to face the fact that GPs "do not do nutrition". In other words, they were not interested in the detailed composition of the products but on their benefits and clinical outcomes. This required many studies to establish some "facts" regarding benefits and clinical outcomes. Further to the clinical studies that were conducted within the strict procedures of the pharmaceutical industry, the marketing people of Medinut identified patient insights around the fear of losing autonomy, depending on others, and being unable to do what they want. On the doctors' side, they could cite evidence that once patients enter an institution, they rarely come out. And dependence is highly expensive – no less than €175 per day in a nursing home or €830 in a hospital (Source: UK Ministry of Health – evidence used in HCP brochures). In comparison, Protinut costs €10 per day, which was very quickly understood by public health authorities.

In sum, Protinut delivers a number of potential benefits, keeping the elderly independent for longer, increasing their quality of life, and reducing costly institutional care. The concept of "protein gap" is simple to understand, and linked to a medically relevant message: the improvement of a clinical outcome. To establish this result, the company had play within a scientific arena of influence with the help of medical and scientific key opinion leaders to generate the evidence. It has also played within the regulatory arena, still with key opinion leaders that have helped it to run the economic studies that facilitate the reimbursement of the product. And, it has played within the health care professionals and public arenas by involving GP's, nurses, nutritionists and dieticians, and patients. These efforts have been directing at communicating of evidence about sarcopenia in particular, with a pedagogical argument regarding the need to do something if one wants to remain independent for longer.

Protinut Smalldose, a solution to enhance compliance

After having developed the market for Protinut, further market research highlighted a key issue: patients had a low degree of compliance with their prescribed treatment and drank on average only half of the bottle of regular Protinut or other oral supplement. The development of a Smalldose

version of Protinut was a way to reduce the quantity of beverage to absorb and to make sure that patient will be able to get the prescribed treatment fully. This was achieved with a particular technology that condensed the protein quantity without making the beverage thicker. With this initiative, the primary marketing objective of the company was to increase the penetration of the brand by gaining market share from the competition both in the hospital and community markets (mature markets) whilst attracting more patients to the category especially in community markets (developing markets).

At the moment health care professionals don't see a real difference between the various brands on offer. Their preference is depended on pragmatic issues like availability of samples, regular visits by reps and whether or not brands are within the tender. In addition, marketers from Nutrinut could identify a key barrier to the use of Oral Nutrition in hospital. Many elderly patients cannot ingest large quantities of food, and most protein enriched beverages generate a feeling of satiety leading patients to leave away half the quantity available in a bottle. This fact has led hospital HP and economic agents to measure a finishing rate of the prescribed substance. Protinut Smalldose will create a clear differentiator towards competition showing an increased finishing rate and an increased intake in nutrition. This strong unique selling proposition should convince health care professionals to change from their current brand to Protinut small dose and can be a strong innovation in the tender business, when drugs and oral nutrition products are listed by hospital economists before they get prescribed by health care professionals.

With respect to attracting more patients, the main reason why patients don't get prescribed clinical nutrition is "patient refusal" (44%). This is a result of patient perception that they feel really ill once they need to use clinical nutrition, or that they know beforehand that they are not able to finish the volume. Due to its small size Smalldose can become the entry supplement for first starters. Especially in developing markets Smalldose can increase the accessibility to the patients.

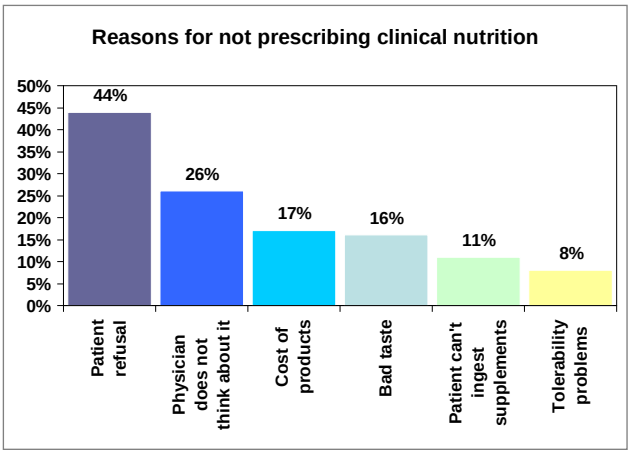


Figure 6: Reasons for not prescribing clinical study (source: company's market research)

Once this primary objective of penetration is being achieved, the next objective is to increase frequency, by prolonging the prescription duration and the number of bottles prescribed per day. When patients will finish their prescribed volume easier, they and their carers are more willing to continue with it, especially if they feel better.

To reach these objectives, the marketing managers argued for Smalldose in the following way:

Insight:	Many patients struggle to drink the required amount of the oral supplements.
Solution:	New Protinut Smalldose provides the same nutritional value as a regular 200ml Protinut, but now in a smaller dosage (125ml), making it easier for patients to achieve their nutritional intake. Smalldose is available in a range of good tasting flavours
Reason why:	A single bottle of Protinut Smalldose contains 2.4kcal/ml, which is 300kcal per serving, 12g protein, complete nutrition, great taste and consistency all in 40% less volume.
Benefit:	Designed to improve nutritional intake. Smalldose – less volume, more nutrition

When confronted with the name Smalldose, most health care professionals perceive this to be primarily a 'low volume supplement' which makes it easier for patients to manage the volume. When they realise that the low volume combined with greater nutritional density results in a

significant increase in the consumption of nutrition the full value of the product becomes apparent. Thus the core benefit of Smalldose is “less volume, more nutrition”

The main objective of the communication strategy was to create fast awareness among health care professionals in order to claim the new standard for oral nutrition; Smalldose is the new standard in oral supplements. Secondly, the communication should change the behaviour of health care professionals on a routine basis, not only for one prescription. This means that the experience with the product should be satisfactory which can be measured in a concrete way, the number of empty bottles. The communication objective could be summed up as follows: a) fast build up in awareness among health care professionals leading to trial prescriptions of Smalldose; b) sustainable changes in prescription behaviour of health care professionals who currently prescribe competitors’ supplements.

The communication target groups could be divided into the health care professionals and actual patients. The first group is most important to change brand behaviour, whereas actual patients are important in achieving the improved result which makes Smalldose credible for the health care professionals.

The most important influencers to prescribing clinical nutrition are dieticians and nurses; in most countries GPs behave more reactively by signing the request that they get from their health care professional colleagues. Furthermore, the role of carers and patients themselves is very important in requesting clinical nutrition.

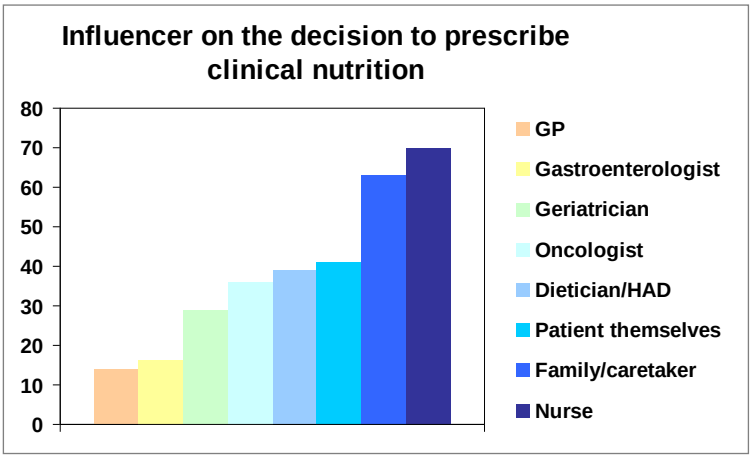


Figure 7: Influencer to prescribe clinical nutrition - source: internal marketing research

To gain market share in the community the main health care professionals to target are GPs, dieticians and nurses currently requesting competitor brands. In the hospitals, tenders are now playing an important role. To gain market share a lot of effort and resources should be put behind

targeting competitor accounts, both in the community and hospital channels. Regarding health care professionals who are already prescribing Protinut, attention should be given to those patients who are currently struggling with the volume. These patients are not satisfied with the product they are receiving and might stop using the products. To switch the behaviour of the various health care professionals it is essential to understand their main barriers and drivers, their current behaviour and their new required behaviour. The switch in behaviour needed is mapped in the table below.

GP	Dietician / Nurse Protinut	Dietician / Nurse Competition
Barrier • Nutrition does not excite him/ her	Driver • Get nutrition in the patient	Driver • Get nutrition in the patient
Current behaviour • Signing requested prescriptions	Current behaviour • Request for Protinut	Current behaviour • Request for competitor brand standard supplement
New behaviour • If no brand is mentioned on the request, prescribe Smalldose	New behaviour • Change patients with compliance issues to Smalldose • Put new patients on Smalldose	New behaviour • Change prescriptions to Smalldose • Put new patients on Smalldose
RTB • Easiest way to get nutrition in	RTB • Improved compliance • Lower feeling of fullness • Preferred by patients	RTB • Improved compliance • Lower feeling of fullness • Preferred by patients
How • Make Smalldose top of mind with simple story based on treatment efficacy	How • Put the theory into practice so they experience it with their own eyes	How • Put the theory into practice so they experience it with their own eyes

Regarding the second objective, attracting more patients to the category, patients and carers will be the main targets. Smalldose can be used as the entry supplement to the oral category, as it is the

easiest way to increase nutritional intake. Furthermore, due to its size, Smalldose is more related to functional foods with which patients/ carers are familiar with from final consumer markets. Smalldose will increase the accessibility of the oral category.

Patients / Carers		Dieticians / Nurses
Barrier • Not aware of the benefits of Oral Nutrition Supplements		
Current behaviour • Use normal food to attack weight loss		
New behaviour • Discuss the option of oral supplements with nurse / dietician	➔ Action required from Dietician and Nurses ➔	New behaviour • Suggest Smalldose to increase nutritional intake
RTB • Easier way to get nutrition in		RTB • Easiest way to get additional nutrition in
How • Use Smalldose to tell the benefits of oral supplements		How • Put the theory into practice so they experience it with their own eyes

Smalldose can be used for all patients who are at risk of malnutrition. This is also recognized by health care professionals; they don't see a clear reason why not to prescribe Smalldose to a certain patient. Within this broad range of patients, specific groups can be identified that will benefit even more from Smalldose compared to standard supplements such as patients on a fluid restriction (e.g. with renal, hepatic and cardiac disease/dysfunctions).

The communication process that we have described was finally boiled down into one proposition: Protinut Smalldose – less volume more nutrition. Reason to believe: Smalldose offers 40% less volume with a higher nutritional density resulting in:

- More patients likely to finish the prescribed volume
- Patients having a greater nutritional intake

This communication was finally conveyed to the "initiators" in various ways ranging from individual sales calls, lunch meetings, conferences, teaching events, health care magazines, Internet, direct mail or public relations.

A global redefinition of a strategy regarding Superior Medical Nutrition, the framing of a key issue sarcopenia, and the development of a rich in protein product Protinut Standard and Protinut Smalldose, combined with the right argumentation process defined for each initiator shows a rich process of re-qualification and re-valuation of clinical nutrition that we now want to analyse with the use of the theoretical concepts defined in our first section.

5. Analysis

Our empirical study raises a number of issues related to the positioning and valuation of goods. The focal company realised that medical nutrition products were unhelpfully entangled within a web of qualifications and valuations that restricted its market options. From a nutrition perspective, clinical nutrients could only be regarded as delivering benefits to patients in very particular conditions (e.g. unable to eat or recovering from certain forms of surgery) and of interest to a restricted set of practitioners.

If clinical nutrients could be seen as delivering positive clinical outcomes, positioning them as equivalents to pharmaceutical drugs, or having a prophylactic effect on some medical conditions, the range of applications and professional constituencies they could appeal to would be considerably enlarged. Broadening the notion of clinical nutrition meant attempting to establish a whole new set of equivalences and connect to a variety of scales of valuation. The case of sarcopenia illustrates how this process worked.

First, the importance of sarcopenia is framed by the cumulative evidence regarding expanding life expectancies across the globe and the problems associated with a larger age cohort spending more years requiring attentive health and social care. The increasing policy interest in this issue as

attested by studies of the World Health Care Organisation and publications in specialist medical journals provided a good platform to problematise sarcopenia as a health and socio-economic problem. The disease causes reduced mobility and curtails an individual's autonomy causing problems at the interface between health and social care. This problem can be framed as the protein gap which can be translated into a scale of quantities of source of protein would need to be ingested to plug that gap. Protinut is presented as the ideal product to close that protein gap.

A long chain of derivation-conversion (translating the value of something new into the value of something that is well-established) succeeds in equating Protinut with a pharmaceutical drug and thus appropriate to be prescribed by GPs and reimbursed by social security. To achieve this status, the product has to undergo the same set of procedures applied to pharmaceutical drugs and pass the necessary regulatory tests. The arguments deployed played on both techno-scientific knowledge but also economic arguments related to the costs of dependence which in turn, can be translated into costs of hospital and/ or home care. In this process of establishing equivalences between clinical nutrients and pharmaceutical drugs, the company has to play in multiple arenas and engage with multiple scales of valuation. The end result is a series of laddering charts that relate the process of derivation-conversion for each audience and valuation framework.

The example of Smalldose suggests a similar process at work within a narrower space of derivation-conversion. The problem here is to frame a solution to a problem – the low patient compliance with the dosage of normal Protinut – in terms of a novel variant of an existing product. The emphasis is on demonstrating the benefits of the new variant as formulated to deliver "more nutrition" but critically, "less volume". The process of derivation-conversion focuses on a new product variant but also on prescription patterns. Part of this effort is attempting to change the behaviour of prescribers and marshalling arguments that can appeal to different constituencies (GPs, dieticians and nurses). A parallel effort is directed at increasing the company's presence in the community markets and directed at dieticians and nurses in the community. In both these examples, the laddering process is well-developed with the identification of existing behaviours, routes to influence behavioural and reasons to accept the company's argument.

In summary, this example illustrates how laddering processes perform derivations-conversions as they are deployed in marketing and sales activities. In these examples, clinical nutrients are revalued and requalified for different audiences (e.g. patients, doctors, nurses, hospitals). This process is underpinned by different arguments and these arguments are substantiated using a variety of techno-scientific and economic knowledge. For example, the arguments deployed with doctors are anchored in the result of trials published in scientific journals, the reputation of those performing the trials and their standing in the scientific community. The arguments employed to address patient

needs relate product benefits to arguments on improving quality of life, practical ways of coping with symptoms and so on. As far as other health professionals are concerned (e.g. nurses), the style of argumentation may turn to productivity, simplicity of procedures and quality of patient care. For hospital and social care managers, benefits are translated into the language of economic efficiency involving costs, efficient capacity utilisation and facilities management.

In summary, the laddering processes involved simultaneous and parallel processes involving intricate derivation-conversion processes. The nature of the derivation-conversion differs by the type of audience and the nature of expert knowledge to articulate and substantiate the links across different orders of qualification and valuation.

6. Conclusions

This key argument of this paper is that markets construct spaces where multiple forms of valuation are confronted and linked together. The notion that the price mechanism alone resolves these differences assumes a range of consensual agreements ranging from the classification of goods to the metrological infrastructures that allow numerical values to be attached to goods.

Finch and Geiger (2011) drew attention to the problems of incommensurabilities across buyer-supplier interfaces. The concept of trading zone is deployed to explain how different types of linguistic and cognitive incommensurabilities can be overcome to bring about successful transactions. Sjogren and Helgesson (2007) studied how the economic classification and valuation of pharmaceuticals is a complex process that must coexist and partly articulate with alternative forms of classification and valuation. This paper follows the same trail but focuses on the notion of bridging and reconciling multiple scales of valuation.

The exemplary work of Guyer (2004) brings to life the extraordinary creativity of economic actors in playing and combining different scales of valuation to obtain values appropriate for different situations. In the world depicted by Guyer, transactions are difficult because of discontinuities and breaks created by different currencies, conventions based on different ethnic group traditions and so on. The uncertainty created by these disjunctures, where equivalences have to be agreed upon for every situation, carries opportunities for what Guyer calls “marginal gains”. Lepinay and Callon (2009) see this as an example of a more general principle underpinning economic life. Any innovation, however radical or minor, is a derivation of pre-existing values. In other words, derivation is a generic mechanism through which value is attributed to goods through a series of conversions.

We invoked the notion of means-ends chains and laddering techniques to illustrate how the process of derivation-conversion is approached from a marketing point of view. These techniques attempt to establish links across multiple and incommensurable scales of valuations going from the detailed attributes of goods to personal values. The assumption that these links map into the ways knowledge is organised in individual minds is unwarranted. Instead, we are more interested in the way laddering depicts processes of derivation-conversion that the supply side deploys when interacting with the demand side.

We have used one example from the health care sector to illustrate how laddering techniques become devices to establish equivalences and link multiple scales of valuation. The case we have described uses the repositioning of a product category and tracks the multiple processes of derivation-conversion involved in establishing equivalences between clinical nutrients and pharmaceutical drugs. This process of derivation-conversion played out at multiple levels and involved the marshalling of a multiplicity of arguments to fit ladders that could appeal to multiple constituencies. This required the disentanglement of clinical nutrition from its specialist niche and engaging with the practices and conventions of pharmaceutical drugs whilst grabbing opportunities to engage with emerging issues that criss-cross the boundaries between health and social care.

This example suggests a broader and speculative interpretation of how marketing is involved in value creation, seen by some as central to a foundational theory of markets (see e.g. Vargo, 2007). The process of value creation cannot be reduced to unhelpful distinctions between exchange and use value. It should instead be understood as chain of derivations-conversions, each bringing with it new and provisional qualifications and linking a good to new spaces of valuation via the appropriate conversions. This process, as Dubuisson-Quellier (2011) has illustrated, the circulation of a good mobilises multiple devices, multiple valuations and multiple forms of expertise. Each of these interventions need not cohere with one another or produce a univocal valuation of the good. On the contrary, the persistence of asymmetries and differences in valuation schemes as Stark (2009) suggests, is a force for innovation and renewal.

References

Aspers, P. and J. Beckert (2011). Value in Markets. In The Worth of Goods. Valuation and Pricing in the Economy, edited by J. Beckert and P. Aspers. Oxford, Oxford University Press**:** 3-38.

Araujo, L. (2007). "Markets, Market-Making and Marketing." Marketing Theory **7**(3): 211-226.

Araujo, L., H. Kjellberg, and R. Spencer (2008). "Market practices and forms: introduction to the special issue." Marketing Theory **8**(1): 5-14.

Araujo, L., J. H. Finch, and H. Kjellberg, Eds. (2010). Reconnecting Marketing to Markets. Oxford, Oxford University Press.

Bagozzi, R. P. and P. A. Dabholkar (2000). "Discursive Psychology: An Alternative Conceptual Foundation for Means-End Chain Theory". Psychology & Marketing **17**(7): 535-586.

Caliskan, K. and M. Callon (2010). "Economization, part 2: a research programme for the study of markets." Economy and Society **39**(1): 1 - 32.

Callon, M., C. Meadel, and V. Raberisoa (2002). "The economy of qualities." Economy and Society **31**(2): 194-217.

Callon, M. and F. Muniesa (2005). "Peripheral Vision: Economic Markets as Calculative Collective Devices." Organization Studies **26**(8): 1229-1250.

Cochoy, F. (2002). Une Sociologie du Packaging ou l' âne du Buridan face au marché. Paris, Presses Universitaires de France.

Cochoy, F. (2008). "Calculation, qualculation, calqulation: shopping cart arithmetic, equipped cognition and the clustered consumer." Marketing Theory **8**(1): 15-44.

Dubuisson-Quellier, S. (2011), Product tastes, consumer tastes. The plurality of qualification in product development and marketing activities, in Reconnecting Marketing to Markets, edited by L. Araujo, J. Finch and H. Kjellberg, Oxford, Oxford University Press: 74-93.

Finch, J. and S. Geiger (2011), Markets are Trading Zone. On the Material, Cultural and Interpretative Dimensions of Market Encounters, in Reconnecting Marketing to Markets, edited by L. Araujo, J. Finch and H. Kjellberg, Oxford, Oxford University Press: 117-137.

Greenlund, L.J.S. and K. S. Nair (2003), "Sarcopenia – consequences, mechanisms and potential therapies", Mechanisms of Ageing and Development **124**: 287-299.

Gutman, J. (1982). "A Means-End Chain Model Based on Consumer Categorization Processes." Journal of Marketing **46**(2): 60-72.

Gutman, J. (1997). "Means-end chains as goal hierarchies." Psychology and Marketing **14**(6): 545-560.

Latour, B. (1987). Science in Action. How to follow Scientists and Engineers through Society. Cambridge, MA., Harvard University Press.

Lepinay, V.-A. and M. Callon (2009). Sketch of Derivations in Wall Street and Atlantic Africa. In Accounting, Organizations, and Institutions: Essays in Honour of Anthony Hopwood, edited by C. S. Chapman, D. J. Cooper and P. Miller. Oxford, Oxford University Press**:** 259-289.

Lind, J. and T. Stromsten (2006). "When do firms use different types of customer accounting?" Journal of Business Research **59**(12): 1257-1266.

Lindgreen, A. and F. Wynstra (2005). "Value in business markets: What do we know? Where are we going?" Industrial Marketing Management **34**(7): 732-748.

Olson, J. C. and T. J. Reynolds (1983). Understanding consumers' cognitive structures: Implications for marketing strategy. In Advertising and consumer psychology, edited by L. Percy and A. Woodside. Lexington, MA., Lexington Books.

Power, M. (2004). "Counting, Control and Calculation: Reflections on Measuring and Management." Human Relations **57**(6): 765-783.

Rajaratnam, J. K. et al (2010), "Wordwide Mortality in Men and Women aged 15-59 years from 1970 to 2010: a systematic analysis", The Lancet **375**(9727): 1704-1720

Reynolds, T. J. and J. Gutman (1988). "Laddering theory, methods, analysis and interpretation." Journal of Advertising Research **28**: 11-34.

Sjögren, E. and C.-F. Helgesson (2007). The Q(u)alifying Hand: Health Economics and Medicine in the Shaping of Swedish Markets for Subsidized Pharmaceuticals. In Market Devices, edited by M. Callon, Y. Millo and F. Muniesa. Oxford, Basil Blackwell.

Stark, D. (2009). The Sense of Dissonance: Accounts of Worth in Economic Life. Princeton, NJ., Princeton University Press.

Vargo, S. L. (2007). "On a Theory of Markets and Marketing: From Positively Normative to Normatively Positive." Australasian Marketing Journal **15**(1): 53-60.

Whitford, J. (2002). "Pragmatism and the untenable dualism of means and ends: Why rational choice theory does not deserve paradigmatic privilege." Theory and Society **31**(3): 325-363.