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Antecedents, Modes and Effects of Back-Reshoring Strategies: The Experience of Italian Enterprises

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Abstract

The back-reshoring is an emerging phenomenon in the academic literature, representing a frontier for management studies. In a scenario in which most of research on enterprises internationalization has focused on the determinants and the ways in which firms grow abroad, contributions to describe and interpret the choices of relocation of manufacturing activities in the country of origin of the company are not as widespread. The back-reshoring, however, has an increasingly important role in enterprises decisions and the antecedents of this strategy that few studies have so far identified are an increase in both the quality of the productions and the conditions of manufacturing flexibility. Based on this theoretical framework, this paper seeks to describe the behaviour of enterprises which have undertaken back-reshoring initiatives. Relating to the cases of some Italian enterprises, it's possible to identify and interpret, from a management perspective, the determinants that have led to similar strategic decisions, the ways in which back-reshoring has been achieved and, finally, the benefits and problems that have emerged from this process of the international relocation of production.

Key Words - Back-reshoring, Internationalisation, SME, Italy, Delocalisation.

Introduction

The back-reshoring is a strategy with an increasing role and importance in internationalization process of enterprises in recent years. According to economic and managerial academic literature, this term means “a voluntary corporate strategy regarding the home-country's partial or total relocation of (in-sourced or out-sourced) production to serve the local, regional or global demands” (Fratocchi et al., 2014). So, the main aspect that characterizes this strategy is due to the firm's decision to return part or all of manufacturing activities that were previously located in near (near-shoring) or distant (off-shoring) countries to its country of origin. Therefore, it is not a simple choice of localization of production at international level (reshoring), nor a back internationalization which involves the shift of production in geographically closest countries (near-reshoring). The main aspect consists of the company's decision to rebuild manufacturing capacity within their own countries of origin, regardless of the way in which the production is organized (in-sourcing or out-sourcing), determining, in this way, a regeneration of manufacturing industries and the creation of new jobs. It is for these reasons that the back-reshoring was favored by national governments, especially in the Western countries, as in the case of the US, which have planned and adopted, to face the international economic crisis and following a re-industrialization perspective (Pisano and Shih, 2012), specific industrial policies (Ellram et al., 2013; Tate, 2014).

However, also in front of this growing importance, there are still few studies that seek to deepen the theme of the back-reshoring. The reasons for this situation are due to the

difficulty of finding information, which may be related to the single manufacturing processes (Gray et al., 2013), and the consequent problem to build relevant databases. Currently, there are surveys conducted on a national scale (Kinkel and Maloca, 2009; Fratocchi et al., 2013; Kinkel, 2014; Arlbjørn and Mikkelsen, 2014) or related to the experiences of individual enterprises (Drauz, 2014; Martinez-Mora and Merino, 2014) but the state of knowledge remains limited.

This work is placed in this field of studies and aims to describe the behaviour of Italian enterprises that have undertaken back-reshoring initiatives, in order to identify and interpret, from a management perspective, the determinants that have led to similar strategic decisions, the ways in which back-reshoring has been achieved and, finally, the benefits and problems that have emerged from this process of the international relocation of production. In order to pursue this purpose, the paper is organized as follows. Firstly, a review of the relevant literature is presented, with the aim of identifying the main characteristics of back-reshoring strategies (section 2). Following this, after a description of the methodological approach used (section 3), the experiences of Italian enterprises which have implemented these kind of decisions are reported (section 4). This leads to a discussion of the results and the interpretation of the behaviour of enterprises (section 5). Finally, the main implications of management and policy are presented (section 6).

Literature review

The internationalization process of Italian enterprises have particularly intensified over the years, addressing mainly to the countries of South-East Asia. The determinants of this repositioning of the enterprises in the global markets are linked to at least two sets of factors. On the one hand, entry in Asian countries is led by the low cost of labour, especially for labour-intensive processes, which are characterized by a lesser quality level. In this respect, it is sufficient to point out that, according to the United States Bureau of Labour Statistics (2012), the hourly cost of labour in the manufacturing industry in China and India in 2003 amounted respectively to 0.62 and 0.81 US dollars, compared to a value of 23.35 US dollars in Italy. It therefore seems clear that the possibility of access to low-cost factors of production is an incentive for companies to internationalize in such areas. On the other hand, the decision to relocate investments made in the past in other countries, or to build new manufacturing plants in south east Asia, derives from a further opportunity: the emergence of a wealthy social class that, in many cases, tends to buy ostentatious luxury products, many of them Made in Italy (Chevalier and Lu, 2009). China, for example, is currently the second largest retail market in the world, and the largest in all of Asia. It is expected that the Chinese market will exceed that of the United States in 2016, becoming the largest retail sales market in the world (Dezan Shira & Associates, 2014). Recent research (Barton et al. 2013) also suggests that the Chinese upper middle class is becoming significant: by 2022, it will represent 54% of families living in urban centres, and 56% per cent of total private consumption. In this case, the strategy of international outsourcing assumes a market seeking nature, with the aim of not only the pursuit of cost advantages, but also the opening of new consumer markets in which to position finished products. Therefore, considering these aspects, it's possible to highlight the main feature of this internationalization strategy: the opportunity to create synergies between the manufacturing and commercial activities. The investments constitute the platforms, also of a relational nature, established with foreign economic operators, who not only fulfill an outsourcing function, but also facilitate the commercial penetration of the final consumer markets (Meyer and Tran, 2006).

The presence of enterprises in the markets of southeast Asia has been consolidated during the years. Only in recent times new factors have emerged and led to changes in the competitive environment, and which could prompt a revision of their strategic orientation. In particular, at least three elements can be highlighted that currently characterize both the dynamics of the markets and the strategic attitude of enterprises.

Firstly, there has been a noticeable increase in the cost of labour. In China, for example, as outlined by the International Labour Organization (2013), “wages increased on average at double-digit annual rates over the full decade (...). Using these official figures of an annual rate of growth of 12 per cent per annum, real average wages in China have more than tripled over the decade from 2000 to 2010, prompting questions about the possible end of “cheap labour” in China”. If the uncertainty of the currencies in these markets is considered alongside the increase in the cost of labour, it can be understood at a glance how these countries are progressively eroding their competitive advantage and, therefore, losing their degree of international attractiveness (Yang et al., 2010).

Secondly, companies that have invested in these areas are called upon to increase their organizational efforts, in terms of the monitoring of manufacturing and distribution activities. The movement of manufacturing supply chains, in part or in their entirety, to southeast Asia led to the need to create new management activities in the international value chain. It often becomes necessary to redesign products, with the introduction of a higher degree of standardization; in some cases, technical staff are sent in order to facilitate the transfer of technological know-how, and perform activities involved in the monitoring of production at plants abroad; in other cases, when establishment of a presence abroad also included the role of distribution platform, it prompted an intense effort to coordinate manufacturing and commercial activities. In all these circumstances it is evident that the enterprise needs to reinforce its capacity to monitor the quality of products, processes and components, as well as activities involving distribution and logistics (Bontempi and Prodi, 2009; Andersen, 2008; Nassimbeni and Sartor, 2007).

Finally, in addition to these individual behaviours of companies, some large banks are also encouraging, through indirect means, the return of enterprises to their country of origin. Banks are beginning to reward manufacturing chains present in the local area, as opposed to those based on off-shoring, as this physical presence makes it possible to identify the level of interdependence between companies, breaking down any information asymmetries, allowing banks to assign reward measures, principally in terms of lower interest rates.

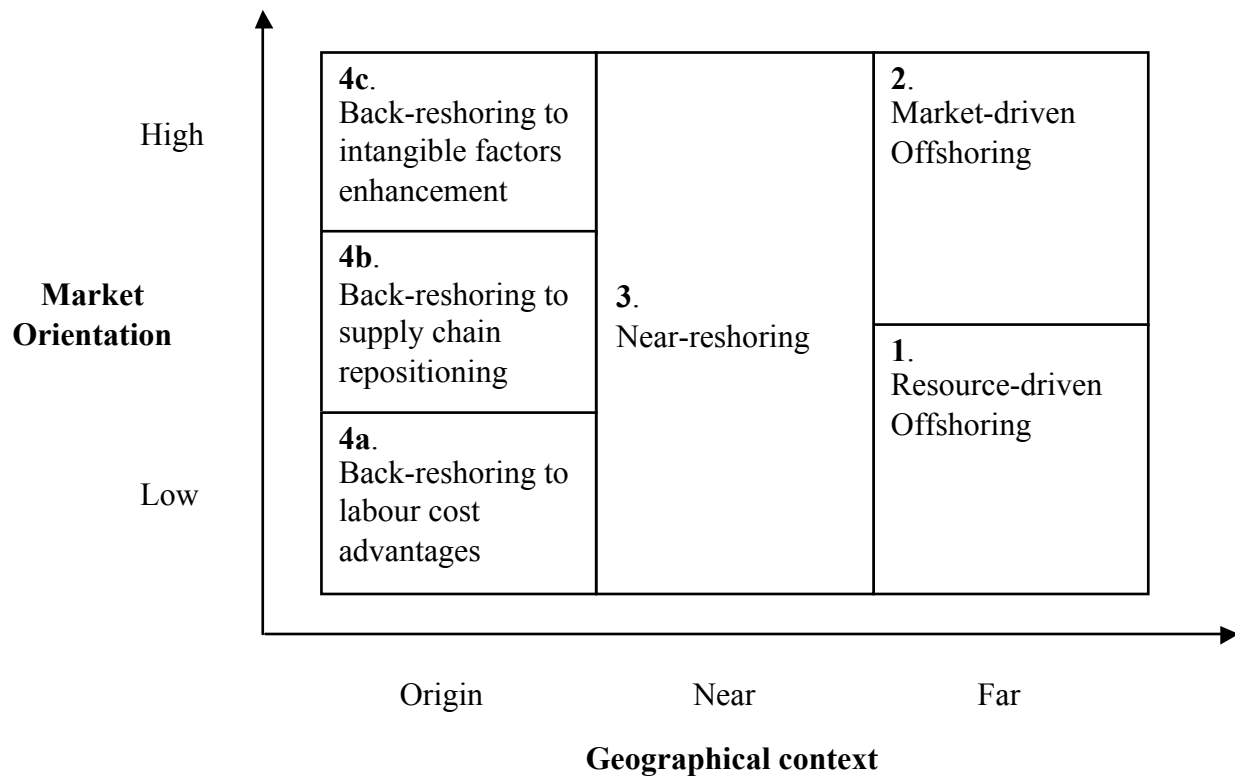
Ultimately, it is based on these dynamics that several companies are beginning to consider a different strategy, such as the back-reshoring (Fratocchi et al., 2014). This is not a vision of a deterministic nature, according to which enterprises will begin a path of large-scale return to their country of origin, but it is certainly a strategic option that, for the reasons outlined, could be implemented, over the next few years, by a growing number of small and medium-sized enterprises.

Based on this scenario, what are the possible trends for the internationalization of enterprises in the near future? As outlined above, it is reasonable to believe that as yet there is no single strategic leadership in place. Back-reshoring is an emerging phenomenon, and may, in some respects, achieve practical relevance, but it is difficult to believe that it will become a dominant trend in the future. It appears more plausible to

consider the possibility that a variety of strategic behaviours will be taken by companies in international markets.

Fig. 1 is based on two variables in particular: the level of market orientation and the spatial extent of the area. Four different verse strategic guidelines can be derived from this.

Fig. 1 The internationalization strategies of enterprises



The first strategy refers to off-shoring activities that are preserved and maintained over time. In such cases, companies have managed to establish off-shoring operations and remain stably positioned in foreign markets as, on the one hand, they continue to benefit production costs that provide a significant competitive advantage, and, on the other hand, they are able to obtain a reduction of transaction costs thanks to appropriate learning activities in these foreign areas. In such cases, therefore, the main driver of off-shoring activities is attributable to a reduction in costs, both in terms of production, which, while undergoing incremental increases, remains advantageous in comparative terms, and transactions, which are reduced with the activation of relational learning mechanisms.

The second strategy concerns a traditional off-shoring situation that evolves into a foreign market-driven type of presence. In this case, the determinants that lead the company to internationalize can be diverse, also due to access to factors of production at costs lower than those in the market of origin. Nevertheless, when the firm is able to acquire the relational competences to manage off-shoring activity, and when growth in demand for final consumption is recorded, it is decided to consolidate and transform the presence, by positioning the finished products directly on the foreign market. The company, therefore, decides to remain in foreign markets not only in terms of production, as in the previous strategy, but also in order to sell directly in these markets.

The third strategy is that of near-reshoring, the decision to relocate some or all of the activities of the value chain in certain geographically distant foreign markets, as in the case of Asian countries, in other international contexts which are characterized by a closer geographic and psychological proximity to the company's country of origin. In the case of Italian companies, this regards the countries of central and Eastern Europe. This is, in other words, a strategy that involves a rapprochement of manufacturing activities, which can be determined by a plurality of factors: a higher quality of production carried out in the presence of minimal labour cost differentials, and an increase in the efficiency and effectiveness of logistics; from the ability to monitor manufacturing processes more easily, to difficulties in managing relationships and overcoming barriers in geographically and culturally distant contexts. Empirical evidence of this strategy has been found in several studies, which highlight an exit from Asian regions, accompanied by entry, in terms of near-reshoring, in central and Eastern Europe (Fratocchi et al., 2014).

Finally, the fourth strategy is the back-reshoring, that is the decision to return some or all of the activities that were previously carried out in foreign markets to the country of origin, in this case to Italy. There are diverse reasons that can lead a company to return to its national context, and consequently, the extent and the role of such a strategy in the economics and the orientation of the company can also appear diverse (Tate et al., 2014; Ellram et al., 2013; Gray et al., 2013; Kinkel, 2012; Kinkel and Maloca, 2009). More specifically, at least three distinct situations can be identified:

- a. back-reshoring can be triggered by a comparative economic evaluation of the various internationalization alternatives, or by the possibility to access industrial policy incentives offered by the national government (Tate, 2014). This is, therefore, an example of reactive behaviour by the company, which essentially assesses its international presence strategy based on economic factors (an increase in the cost of labour that makes it less convenient to produce abroad, virtually no change in transaction costs due to the inadequacy or ineffectiveness of learning mechanisms, and organizational costs for the monitoring of foreign operations). Relating to this aspect, it's not a case that almost 70% of Italian enterprises back-reshoring concern returns from China and other Asian countries (Fratocchi et al., 2013). In fact, outsourcing in Asia results in the emergence of new problems, or the intensification of problems experienced to a lesser extent in previous attempts at internationalization. To operate directly in Asia involves dealing with institutional contexts that are profoundly different than those in Europe (Meyer, 2001), because it is an area in which greater information asymmetries arise due to the diversity of culture, legal regulations, language, expected behaviours and interactions, which inevitably translate into higher transaction costs (Huang et al., 2008; Qu and Brocklehurst, 2003). In these terms, performing off-shoring operations in south-east Asia involves lower production costs but, at the same time, the acceptance of having greater transaction costs, due to both the lack of agglomeration effects and greater intercultural difficulties (He, 2002). The logic behind the choices and actions of such companies is therefore based on a dual expectation: the condition that production costs remain low, in comparative terms, at least in the short and medium term, and the prediction that transaction costs – brought about by information asymmetries and relational limits – will decline gradually over time, with the implementation of the mechanisms and logics of relational learning. Therefore, according to this approach, the firms in Asian region would be willing to accept high transaction costs, provided that they will later tend to fall. In reality, this legitimate expectancy is not always met. The high transaction costs do not fall rapidly, since the characteristics of the specific institutional contexts render the learning activity of

enterprises slow and complex (Chung et al., 2015). Unlike the European markets, in which the learning process proved more rapid, Asian institutional contexts require the construction of trust relationships, based on interactions that accumulate over time and require, therefore, substantially longer periods (Murray and Fu 2016; Wang et al., 2014; Salmi, 2006; Schiavone, 2005);

- b. the company may decide in favour of back-reshoring in order to carry out a competitive repositioning in the context of its manufacturing supply chain (Grandinetti and Tabacco, 2015; Arlbjörn and Mikkelsen, 2014). In this circumstance the strategy is largely implemented by supplier companies, which agree to work on small high quality production batches with a tight delivery schedule, and are often called upon to produce and develop new products (Martínez-Mora and Merino, 2014). For this reason, quick-response strategies are pursued through back-reshoring, in order to meet the needs of client companies that may either be at the end of the value chain, or operators who directly manage networks of national and international retail outlets;
- c. firms may decide to return to the country of origin because they believe that there is a positive country of origin effect and, from this standpoint, consider that it gives added value to their products (Usunier, 2006; Laroche et al., 2005). In this context, the belief is that the territory has intangible and immaterial values that can be transferred to the products, which can then be exploited through appropriate back-reshoring strategies. As has been the case with some of the leading companies in the fashion industry, a territorialized value chain confers greater value to products, not only in terms of qualitative manufacturing characteristics, but also the imprinting, as perceived by some affluent consumers, that products from a specific territorial context share cultural, artistic, historical and local values. Back-reshoring therefore becomes an essential component of a product differentiation strategy that allows the company to raise the extrinsic perceived quality of its products, and thus position them in higher quality market segments with a higher premium price (Grappi et al., 2015). Therefore, it is on the basis of this strategic choice that some business leaders move towards a regeneration of their value chains, facilitating direct interaction with suppliers, and the sharing of tacit knowledge, to increase their level of innovation and incorporate the intangible values typical of a given territory in their products.

Methodology

Within the theoretical context just described above, the objective of this paper is to define and interpret the behaviour of enterprises that have undertaken back-reshoring initiatives. In particular, in methodological terms, three different aspects that have characterized this empirical research can be identified.

In the first place, considering the phenomenon that is the subject of this analysis, the approach used is that of the case study. The reason for this approach is twofold. On the one hand, back-reshoring is, in the dynamics of the internationalization of companies, a trend that has not yet assumed a statistically significant dimension and, for this reason, no detailed quantitative information or international databases are currently available. On the other hand, for the reasons set out above, a limited number economics and management studies have addressed and studied this theme. The present work forms part of this line of investigation and, given its exploratory nature, the level of analysis can only be that of the case study, the main approach used in situations in which knowledge of a given phenomenon, and the possibility to provide adequate explanations, appear reduced (Eisenhardt, 1989). The methodology of the case study makes it possible to study the behaviour of firms in a real environment, covering all possible dimensions (Yin, 2003) and,

at the same time, to address research questions concerning the determinants and the ways in which they have been able to embark on paths of back-reshoring (Gibbert and Ruigrok, 2010).

Secondly, the selection of the companies took place according to a specific analytical path. As a result of the consultation of articles on the topic published in the main national newspapers and specialized economic press, the companies that have introduced back-reshoring strategies over the past ten years were identified (from January 2006 to December 2015). Considering only those organizations that appeared in all sources consulted, this led to the preparation of a list consisting of 43 companies. Each of these companies was subsequently contacted by phone or mail, and a range of responses was received: some claimed to have delocalized and subsequently returned an insignificant part of their production to the country of origin, and as a result did not consider it appropriate to provide information about this; others were not willing to grant interviews; and a third category were willing to offer their collaboration. With reference to this work, and considering that the research activity is still on-going, the focus of this paper is on the experience of three companies that have embarked on back-reshoring strategies.

Finally, from a strictly operational standpoint, a dual activity was undertaken. Initially, a number of documents relating to the activities of companies were collected (presentations and business documents, industry reports and articles from newspapers and national and international specialized economic periodicals), in order to outline their general profile. After this preparatory activity of gathering and processing material from secondary sources, there followed the acquisition of information directly from the enterprises, by means of direct interviews with company management. On the basis of a semi-structured questionnaire, interviews were conducted with managers of three of these businesses, in the period January-March 2016. The interviews had an average duration of one hour, which made it possible to investigate the back-reshoring strategies that have been implemented in depth.

Research results

The case studies described below relate to the experiences of three enterprises operating in the mechanical sector, the macro-economic sector that has been the most dynamic segment of made in Italy in recent years, in particular in terms of growth and the economic importance of exports (ICE-ISTAT, 2015).

The first case is that of Wayel, a firm founded in Bologna in 2007, which specializes in the production of electric bicycles. It is part of the Termal Group, which has been operating for over twenty years in the air conditioning industry, with a turnover of 45 million euro. Entry into the electric mobility sector was decided on the basis of experience gained in Southeast Asia, with the aim of translating the phenomenon of the electric bicycle to the Italian context, as it has become widespread in China. A collaboration was then established with the University of Bologna, through which the production of power systems (batteries), software and bicycles began that, over the years, has grown, in terms of new models designed and launched on the market, and become more sophisticated, in terms of the technology involved and performance achieved.

Initially, Wayel carried out its manufacturing activities in China, more specifically in Shanghai. This choice of localization appears to have been decided by circumstances, as it was in China that the bicycle industry was born and developed, in particular the electric

bicycle sector, with the emergence of related industrial sectors that do not exist in Italy and in Europe. The decision to establish themselves in China therefore allowed Wayel to enter the manufacturing supply chain, to acquire information about the market, and to establish relationships with the suppliers who produce the various components assemble the final product, thus ensuring adequate production runs and quick delivery times. Despite all this, however, the company decided to move part of its production to Italy in 2014.

There are several reasons for this decision. Firstly, the implementation of some processing in Italy allows the company to raise the product quality level. Previously, in fact, all bicycles built in China were checked in Bologna, and imperfections were often found, which forced the company to eliminate certain products. Secondly, the issue of quality levels that did not increase with time was accompanied by an increase in production costs, which contributed to significantly reduce the initial differential: “at this stage the Chinese engineers cost as much as the Italians, and even among the workers costs have increased significantly in recent years” (interview with Giorgio Giatti, President of Wayel, 22 January 2016). Finally, a further motivation is due to the reduction of logistical costs that, in the case of the importation of the finished product, are on average three times higher than the importation of components that are assembled in Italy.

It was on the basis of these factors that assembly operations were established in Italy, which will lead, in the course of 2016, to the opening of a new 7,100 square metre factory. The factory will operate with a ZEB (Zero Energy Building) logic, as it will be capable of self-producing not only the energy used to creating a comfortable working environment, but also the power required for industrial production. In this new location, not only will assembly be carried out, but also other activities (painting and battery production) which affect the entire range of products, and not only the upper range, with the progressive objective of being able to produce, over the course of a year, a 100% Made in Italy product: “at full capacity the plant will produce 35,000 electric vehicles a year, 3.5% of the European market, creating work for 39 people, of which 24 will be in production, most of them new employees” (interview with Giorgio Giatti, President of Wayel, 22 January 2016). This will therefore increase the production capacity, with the use of new resources and the introduction of a significant automation of processes, which is necessary to bring down the high cost of labour and achieve greater competitiveness. In this way, “It will not be a Chinese style production, made with unskilled labour at a low cost, but Italian, with the use of a specialized workforce that can operate with the aid of installations and automated equipment” (interview with Giorgio Giatti, President of Wayel, 22 January 2016).

The positive effects arising from this strategy appear relevant. Not only does it manage to provide greater control of manufacturing processes, resulting in increased product quality, reduced product returns, and greater customer satisfaction, but it also presents a marketing advantage, resulting from the possibility of using the Made in Italy brand, which has a positive reputation and marketing potential, above all in international markets. The only critical issue that remains is that of constructing an adequate network of suppliers for the parts and components of the electric bicycle. Some suppliers have already relocated to Italy, even if problems persist due to the loss of entire phases of the manufacturing sector in recent years, at both a national and European level.

The second case study regards Joycare S.p.A., a company that was born in Ancona in 1997 and operates in the small household appliances and electromedical sectors. Initially, the company had a strong focus, in terms of both products and distribution: 97% of turnover was achieved in the domestic market, and the distribution channel used was,

mainly, that of the largest specialised retail chains. As a result of the international economic crisis, and due to choices made by these large distribution groups, which tend to reduce operating margins for producers in order to decrease the retail price of products, the company found itself in crisis and, in 2009, was acquired by a London-based investment company, Baycross investment Ltd, the holding company of a major international group with a strong manufacturing and commercial presence in Southeast Asia (Shanghai and Hong Kong).

The new owners immediately began to re-launch the company, along two lines of development. Firstly, an intense differentiation strategy was established. In 2014 alone, 25% of turnover (3 million euro of a total turnover of 12 million euro) was earmarked for the development and launch of new products. Since 2009, furthermore, new product lines have been created, each of which is addressed to a specific market segment, and characterized by its own brand. In addition to Joycare, the established and consolidated brand dedicated to personal care, the company also introduced: Joycare Baby, dedicated to infants and distributed in supermarkets; Joyello, also aimed at infants, but distributed in specialized retail networks; Exalta, for hair styling; and Joycare Pharma dedicated specifically to healthcare and pharmacies distribution channels.

Secondly, a particularly relevant strategy of internationalization has been embarked on. Currently, over 70% of turnover is generated in foreign markets. Furthermore, “the company's brands are distributed through five independent subsidiaries in key markets, such as Uruguay, Spain, Bulgaria, Saudi Arabia, Brazil and Egypt. The strategy for emerging countries is to directly control, as much as possible, the development of the business (...). In 28 other countries, distribution is organised through partnerships and importers” (interview with Roberta Martarelli, Administrative Office Joycare, 18 February 2016). The company's distinctive characteristics emerge from these strategies: while the company remains based in Italy, with the activities involved in the design and development of new products, it is also strongly oriented to international markets.

This presence in Italy has been reinforced over the past two years, as the company decided to move to Italy the production of certain goods that, previously, had been manufactured in China and Vietnam. These are, in particular, products that are considered strategic, and defined as such as they are based on advanced technology, which in some cases was developed for other uses or other sectors, and reconverted by the enterprise, often with the contribution of improvements, such as in biomedical equipment (as in the case of an infrared thermometer), or products that incorporate a significant design component (as in the case of professional hair dryers), for which the design and production in Italy generates a high level of added value, which is perceived and recognized in international markets in particular. In these cases, the production was carried out entirely in Italy.

Given the current size of the company, and the high tax burden for the recruitment of new employees, the method chosen to implement this strategy was that of the industrial partnership, which involves a number of suppliers in the national territory, many of which, because of the crisis in the sector, also found themselves in a difficult situation. Through these collaborative arrangements, the company is therefore able to not only to exert complete control over product quality, and to reduce the component of fixed costs, but also to regenerate the local manufacturing fabric, which has been in gradual danger of disappearing.

In this way, higher margins of flexibility are recovered through: a reduction in product lead times and delivery (from the 120/150 days with Chinese suppliers, to 90 days, on average, for Italian suppliers); a reduction in minimum production batches, resulting in a reduced need to store and manage a warehouse of finished products; and a significant increase in the quality of products, thanks to the use of skilled labour, which reduces the amount of production waste and returns from customers.

Finally, the third case study regards the experience of Argo Tractors, a business located in Reggio Emilia. This is the leader in the agricultural tractor and machinery production sector, with an annual production capacity of 24,000 tractors, and sales of 475 million euro in 2014. This company owns major brands, such as Landini, McCormick and Valpadana, and has an extensive international network: four manufacturing plants, exclusively located in Italy, specifically, in Emilia Romagna; two spare parts centres, one of which is in Italy, with the other in France; eight sales branches, including three in Europe, four in America, and one in South Africa; and 130 importers and 2,500 dealers worldwide.

The back-reshoring strategy implemented by this company is rather unusual in that it does not involve the traditional relocation of activities that were previously outsourced abroad, but is rather the result of a process of international acquisitions, whose collective output is subsequently transferred to Italy. In particular, with the purchase of the McCormick brand in 2001, two production companies were acquired: one in France, in Saint Dizier, which produces transmissions, and one in England, in Doncaster, which assembles tractors. 2007 saw the beginning of a first phase of back-reshoring, with the English production activity being transferred to Italy, with these assembly activities being entirely absorbed by Italian facilities. In 2010 the French site was also discontinued, and production of transmissions was moved to Italy. At this point, all production took place in the four Italian plants, and today Argo Tractors continues to manufacture exclusively in Italy.

The reasons that led to such a policy are diverse, yet can basically be ascribed to three sets of factors. Firstly, at a time of international crisis, in which the demand for agricultural machinery suffered a sharp decline, the company decided to concentrate its manufacturing activities in order to reduce costs, not only with relation to logistical services, but also production, with an increase in volumes produced per local unit, and the relative achievement of substantial economies of scale and scope.

Secondly, back-reshoring is determined by the high level of know-how which the company can make use of, not only in terms of internal knowledge and skills, but also, and above all, the advantages derived from belonging to an industrial district that is specialized in the field of agricultural engineering. The products, services and, in general, the knowledge that can be acquired at the local level, are difficult to reproduce in other territorial contexts, and make localization in Italy a source of competitive advantage, regardless of the high level of costs which, in comparative international terms, are limited: “the district of agricultural mechanization is a centuries-old reality within which there exists a background of knowledge and expertise that can provide a competitive advantage. Producing in Italy today is not simple because the costs are very high, especially compared to other countries in the developing world. We could therefore also go to China or India, but how do you reproduce a hundred years of history of the district of Italian agricultural mechanization in these places? It is not possible” (interview with Antonio Salvaterra, Marketing Director Argo Tractors, 10 March 2016).

Finally, a cause and, at the same time, an effect of the back-reshoring strategy is represented by the opportunity to use the country of origin to an extremely positive effect. In this respect, in fact, Made in Italy becomes a communication tool, in particular in foreign markets, where Italian production is recognized and taken as a synonym for quality.

On the basis of these presuppositions, a process of the concentration of manufacturing activities is activated in Italy that gives rise to an increase in a company's workforce by about fifty units. In this way, in a period of crisis, the company not only does not need to lay-off staff, but can also create new jobs, in order to implement the new product families that are the result of the acquisitions. In the same way, the supply system also undergoes changes that can be considered positive. Indeed, while some suppliers continue their relationship with the company, other suppliers, above all those abroad, are replaced with local businesses, generating more positive externalities for the local territory.

Naturally, this process of back-reshoring also involves a number of difficulties. The main problem involves the necessity for the Italian facilities to absorb the acquisition of new product families, with a relative increase in the workload for the management of the three different brands, from both a technical (increased complexity of production and warehouse activities), and a commercial point of view (increased complexity of marketing strategies and in technical-commercial communication policies). It is for this reason that, over the last three years, the company, has introduced a new production philosophy, kaizen, which also involves the physical modification of the plants, in order to reduce assembly time, decrease the material stock and reduce to zero, or strive to reduce to zero, inventory excesses and manufacturing waste. A critical issue that may arise in the future, involving the opportunity to identify and explore new commercial opportunities, is therefore being dealt with in this manner.

Discussion

From a cross-reading of the exposed cases studies, it's possible to identify the main aspects that characterize the back-reshoring strategies and, relating to suggested research questions emerging from the other studies (Fratocchi et al., 2014), to propose some managerial considerations. Based on the experiences of Italian enterprises, the most original aspects are the antecedents of back-reshoring strategies and the positive effects caused by these choices.

In relation to the antecedents of back-reshoring, all factors traditionally suggested by the literature emerge clearly. The return of production, especially from South-East Asia, is determined by the poor quality of work and the current increase in costs which deletes the initial differential and keep the production in these areas no longer profitable. However, there are two new elements with respect to the studies undertaken to date. On the one hand, the production is relocated when the products incorporate important design elements which are difficult to achieve in other geographical contexts. In the traditional industries of Italian economy, the back-reshoring is determined not so much by economic factors, but instead by intangible assets as manufacturing skills, the strong propensity in artisan workmanship and the high capability to transfer innovation in a cross-sectoral logic, achieving the introduction of new products and the improvement / adaptation of existing products (Bettiol and Micelli, 2014). On the other hand, the company's decision to relocate its business comes from belonging to a industrial district context that generates positive externalities and acts, therefore, as an attractor of investments. From this point of view, the results of the present study appear rather significant.

Tab. 1 An overview of back-reshoring strategies

Examined perspectives	Wayel	Joycare	Argo Tractors
Antecedents	Low quality of products The rising of labour costs The weight of logistic costs	Development of new products by technological innovation Development of new products by design	Demand decreasing Concentration of manufacturing activities to obtain economies of scale Localization in industrial districts
Modes	Mix between in-sourcing (building new plant to assembly products) and outsourcing (suppliers of parts and components)	Outsourcing (industrial partnership with national suppliers)	In-sourcing (new product lines added in existing plants)
Positive effects	New employment Higher quality of products Positive effect of the country of origin (Made in Italy)	More flexibility (reduction of lead time and batches) Higher quality of products Positive effect of the country of origin (Made in Italy) Development of national suppliers	New employment Higher quality of products Positive effect of the country of origin (Made in Italy) Increasing the role of national suppliers
Difficulties	Finding new suppliers and building a national supply chain	Absence of particular problems due to the high flexibility reached	Higher manufacturing and commercial complexity

In fact, in the economic and managerial literature, the internationalization of industrial districts are particularly considered and analyzed with regard the decisions of the district enterprises to delocalize parts or entire manufacturing supply chains in new and different geographical contexts, in order to achieve comparative advantages (De Marchi et al., 2014; Chiarvesio et al., 2010; Cerruti and Delbufalo, 2009; Mariotti et al., 2008). In this perspective, the belonging to an industrial district is not a barrier to exit, and this often leads to the replication of district agglomerations in other foreign countries, and the loss of relevant parts of manufacturing supply chains in the national territory (Chiarvesio and Di Maria, 2009; Amighini and Rabellotti, 2006; Camuffo et al. 2006). This study shows, however, as the industrial district can fulfill, now, a new and different function in the attraction of new investments that had previously been carried out in foreign countries. Therefore, the firm's links with its home territory and the consequent ability to generate new knowledge and new skills are important factors that may affect the location decisions of firms and determine the return of other manufacturing activities.

Further specific elements emerge in terms of the benefits coming from the back-reshoring strategies. Besides the increase of employment which may be considered a natural effect in the moment in which the return of the productions is realized through in-sourcing mode, and in addition to an increase in the quality of products, due to the use of specialized labor, there are two aspects that must be worth considering. On the one hand, it appears that the back-reshoring strategies represent a communication tool, a marketing approach through which the positive impact and the competitive advantage that the Made in Italy can generate, particularly in foreign markets, is exploited. Through the relocation of production in Italy, enterprises have the opportunity, in fact, to affix and take advantage of a positive “country of origin”, especially in some manufacturing industries such as textiles, clothing, food and mechanics. In this way, they have the possibility to position their products in higher market segments and to achieve considerable premium-prices (Hu and Checchinato, 2015; Marino and Mainolfi, 2013; Snaiderbaur, 2009). On the other hand, the return of production generates positive effects on supply systems, independently of the modes in which back-reshoring is realised. The beginning of relations with new suppliers, as in the case of out-sourcing, contributes, in fact, to the regeneration of whole industrial fabrics which were at risk of disappearing due to delocalization decisions of customers. In the same way, the increase of enterprises internal production (in-sourcing) allows to increase the industrial demand to existing suppliers, causing a strengthening of local and national manufacturing supply chains.

Conclusions

The reflections conducted in this study illustrate how, at present, back-reshoring is showing a growing relevance in the internationalization strategies of enterprises even if it has not yet assumed a statistically significant relevance. According to some studies (Fratocchi et al., 2013), Italy is the second country in the world, after the United States, in terms of number of initiatives that have been undertaken to date, especially in the period following the international economic crisis. For this reason, the present work had the objective to identify, in an exploratory way, the specific characteristics that the back-reshoring assumes in the experience of some enterprises that have undertaken a similar production relocation path. From the evidence exposed, it is possible to propose some implications, both in terms of management, both in terms of industrial policies that could be adopted to support, in the future, the growth of this phenomenon.

Relating to the first aspect (managerial implication), a large part of academic literature has so far shown that the back-reshoring could be considered an effective strategy to reduce production and logistic costs, to raise flexibility conditions and to improve the quality of products.

The aspect that emerges from these studies is an evident “orientation to production” according to which the back-reshoring is mainly functional to the increase of business efficiency. Instead, the present work highlights a different and further dimension of back-reshoring that, in the specific case, can be determined by the intention of to exploit the country of origin effect (if it has a positive value). It follows, therefore, a new and possible “market orientation” of back-reshoring strategies that can also be aimed at the enhancement of intangible components of the territories and their transfer in the enterprise image and offering. In this way, the location of manufacturing activities in the country of origin becomes a new leverage to achieve product differentiation, obtain high premium price and intangible competitive advantages. It is for this reason that the pursuit of back-reshoring strategies has deep implications on the organizational and behavioral structure

of enterprises, requiring not only technical and economic decisions but also, and perhaps above all, the acquisition and the development of appropriate marketing skills. On the one hand, enterprises are forced to take on the responsibility of the territory in which they are located. Phenomena of social and cultural decline, as well as landscape and environmental pollution, risk to cause a negative effect on the quality characteristics and the image of products. As a result, companies will be committed to preserve, enhance and strengthen, through specific social responsibility strategies, social, cultural and landscape features of their territories. On the other hand, the ability to incorporate the intangible characteristics of the territory in the value of the products is not automatic but depends on the will to design and pursue specific marketing strategies. The economic value of the product therefore depends on marketing actions able to enhance these intangible identity, through appropriate branding, communications and retailing strategies.

Relating to the second aspect (policy implication), the back-reshoring can be considered a circumstantial phenomenon, involving the individual behavior of a number of important enterprises. The problem is, therefore, to extend and amplify this phenomenon, for its obvious consequences in terms of industrialization and employment growth for the local area. To this end, national and regional industrial policies can assume a high level of significance in order to build territorial ecosystems of value, that is favourable business environments characterized by intense cross-sector inter-functional ties. A more attractive environment for enterprises should not be based on the (re) construction of strictly manufacturing supply chains, but also needs to include other components that confer greater added value to the manufactured product. For this reason, territorial ecosystems of value require the contribution not only of leading enterprises, but also widespread craftsmanship, banks that are willing to invest and support territorial regeneration strategies, universities and technical schools that can generate specific competences, and public institutions capable of accompanying these processes of economic and social transformation. It is on the basis of this strategic choice that some leading enterprises may proceed with a regeneration of their territorial chains, facilitating direct interaction with their suppliers and the sharing of tacit knowledge, thus increasing their degree of innovation and enhancing products with the intangible values typical of a given territory.

In conclusion, unless there is a projected move towards territorial ecosystems of value, back-reshoring could remain limited to the experience of a few leading companies that might generate, thanks to their motivation and the investment of financial and organisational resources, their own territorial ecosystems of value.

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Will digital boost circular? Evaluating the impact of the digital transformation on the shift towards a circular economy

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Abstract

The overall aim of this paper is to answer the question whether the digital transformation of products, services and business models positively impacts the realization of a circular economy. There is little doubt that the shift towards a circular economy will be mandatory, in order to sustain population growth, despite the limited amount of resources on earth. While the concept of a circular economy has been around for decades, its realization is still in its infancy. The purpose of this paper is to explain the potential of (1) digitalized products and services and (2) digital business models for realizing the concept of a circular economy. Based on research in different disciplines, this paper demonstrates that digital technologies will (1) improved asset utilization, (2) boost the recovery of pure material flows and (3) enable refurbishment and remanufacturing scenarios. The digital transformation has the potential to become the much hoped for ignition spark for the Circular Economy if the remaining challenges regarding regulation, social acceptance and economic viability are met.

Key Words: Digital Transformation, Circular Economy, Business Innovation, Business Model Innovation

Introduction

By 2050, there will be approximately 9 billion people living on earth and enjoying increasing wealth (Godfray et al, 2010). This will lead to a global economy requiring about three times the resources we currently use. In our current, linear economy, approximately 80 % of what we use is directly discarded after usage (Sempels and Hoffmann, 2013). Other research even concludes that over 99% of the total material flow generated in order to produce consumer goods ends up in waste disposal within 6 months (Hawken, 1999, p.81). Even though there is ongoing discussion about the exact numbers, the fundamental need for an alternative to the current make-use-throw away-model, has led to the emerging discussion about a more circular economy.

While the idea of a circular economy is around for decades the current situation seems now more favourable than ever to take action. In a recent report to the World Economic Forum the Ellen MacArthur Foundation and McKinsey & Company concluded that the transition to a circular economy would create an opportunity in excess of 1 trillion USD for the global economy (Ellen McArthur Foundation, 2014, p.5). These calculations created a huge awareness for the topic as many corporations seized their chance to get a part of this potential revenue opportunity.

But why has the perception of circular economy ideas among corporate managers changed so dramatically in the past years? It can be constituted that three major changes led to this development. First, increasingly volatile commodity prices have fuelled the need to safeguard the resource supply for manufacturing corporations. One of the key principles of a circular economy is that “the goods of today are the resources of tomorrow at yesterday’s prices” (Stahel, 2014, p.55). Since commodity prices

dropped from 1900-2000 with an average 1.2% per annum (Webster, 2014, p.11), having yesterday's prices for raw material did not seem quite interesting in the past century. Since then, however, raw material prices are on a constant rise and become increasing volatile, which makes it now more attractive than ever to recover raw materials from users at the end-of-life stage. Second, Information technology enables new business models, which weren't thinkable a few years ago. While car sharing was around for decades, for instance, only smart phone apps have brought a wide spread success of this new form of shared commodity usage. Moreover, the development of reverse networks for resources only has become efficient when materials are traced via RFID or other identification technologies. Third, and maybe most fundamental, we are in the beginning of a pervasive shift in consumer behaviour which increasingly leads to a performance over ownership mentality (Ellen MacArthur Foundation, 2014, p.44).

Generally, the transition to a circular economy entails four fundamental building blocks:

- (1) materials and product design
- (2) new business models
- (3) global reverse networks
- (4) enabling conditions .

The aim of this paper is to focus on the influence of the digital transformation on all four building blocks. In particular this paper aims at evaluating the opportunities that derive from a more digital economy in regard to the transition towards the circular economy.

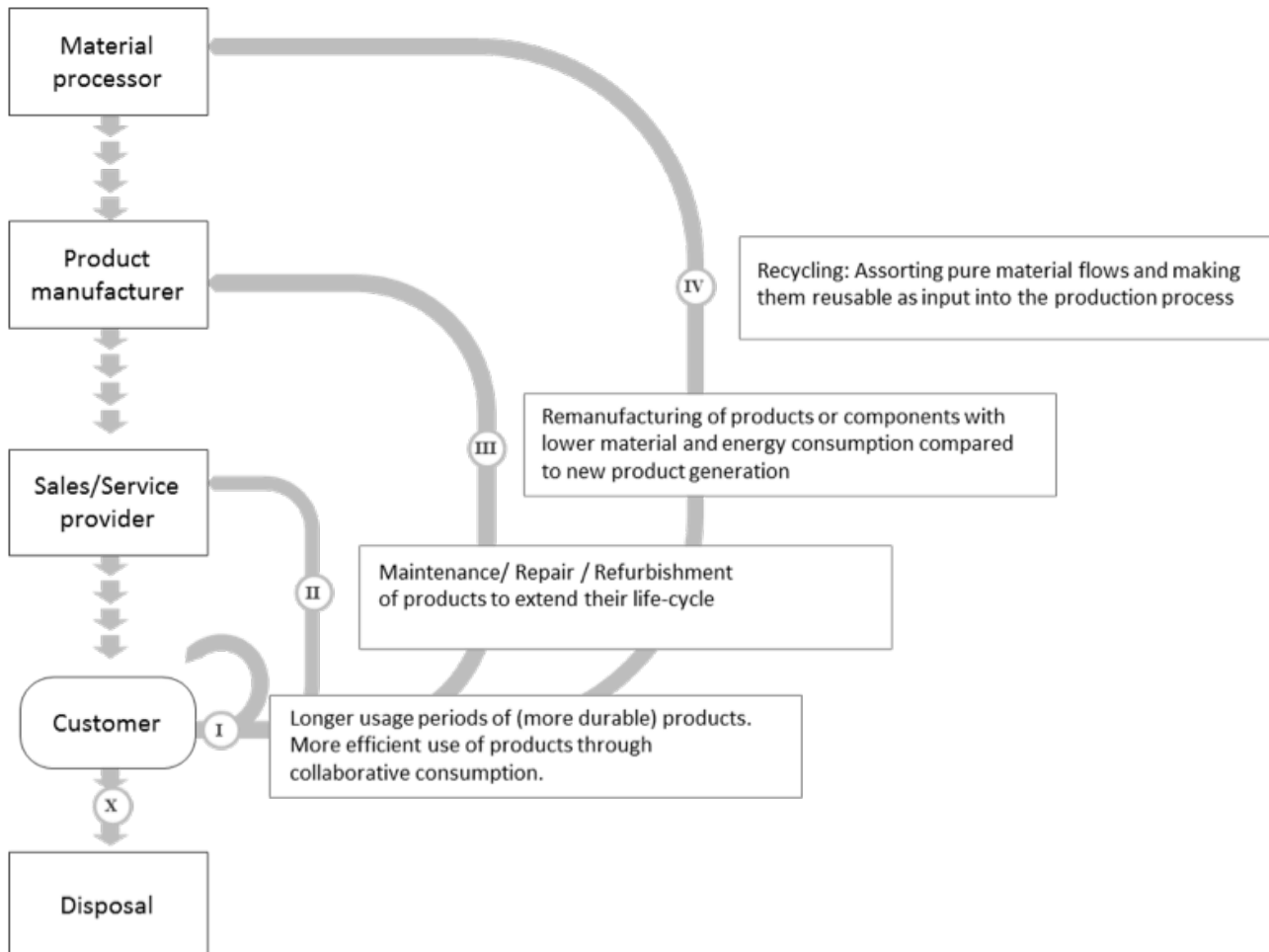
The challenge of creating a circular economy

The aim of a circular economy is the recovery of pure material flows as well as energy recovery in an increasing international supply chain and for ever-faster product life cycles. This creates the need for new business models in a more complex system of actors, such as suppliers at various levels, recycling and returning facilitators, local authorities and many others. There have been several attempts to develop a generally valid conceptual model for this new system of business models. By reviewing literature on the circular economy, it becomes obvious that there is no common agreement on how to design such a system. Yet, a certain widely agreed structure can be derived, which constitutes the basic roadmap towards business model innovation in a circular economy.

Stahel and Reday-Mulvey first developed this circular, hierarchical system in 1981 and since then multiple authors developed the model further. In this model, the inner circle constitutes the customer and the main drivers of change are the more efficient use of resources, for instance by collaborative consumption, as well as the product lifetime expansion, for instance by developing goods that are more durable. In the next wider circle, product life-cycle expansion is achieved by refurbishment and maintenance, as well as by redistribution and next-life sales, for instance by selling used products to more price-sensitive markets. New business models, which include the physical transformation of products, for instance by remanufacturing or upgrading, build the next stationary orbit of a circular economy. Winning back pure material flows, finally, is the last and most energy consuming option to bring back resources from end-of-life products into the circular economy. This new form of recycling requires products, which are built with clearly identified pure materials (as opposed to the products, which are hybrids of different, inseparably materials).

Chart 1 shows a general outline of this model and the associated business models on each level.

Chart 1, Source: Own drawing based on Ellen McArthur Foundation, 2014. Originally developed by Stahel and Reday-Mulvey, 1981



How the digital transformation impacts the transition

The digital transformation started nearly half a century ago. Yet, there is no commonly agreed definition of the term Digital Business Transformation (Fitzgerald, 2014). Wade (2015) defines the term Digital Business Transformation as '*Organizational Change through the use of Digital Technologies and Business Models to Improve Performance*'. Similarly, C. Matt et al. (2015) argue that '*digital transformation strategies go beyond the process paradigm, and include changes to and implications for products, services, and business models as a whole*'. In sum, digital transformation essentially has four dimensions: Use of technologies, changes in value creation, structural changes, and financial aspects (Matt et al., 2015). This research, however, only considers the customer-visible, value-creation part of the transformation process as the nucleus of research. In contrast to cultural, or organization change, the transformation of products, services or business models directly affects the value chain and has thus the highest relevance for the transition towards a Circular Economy. By reducing the scope of the digital transformation to the customer-visible, downstream-oriented part, it becomes obvious that at core, the major transition drivers are two-dimensional. On the one hand,

there is a strategic move towards digitizing existing products and services or at least extending the product or service range by digital offerings. On the other hand, there is a strategic move towards new, digitalized business models. The common ground of these new business models is that they lead to better asset-utilization by employing digital technologies. Examples are Software as a Service (SaaS) or modern Car-Sharing (Bharadwaj et al., 2013). For the purpose of this research *Digital Business Transformation* therefore is structured along two major dimensions:

- Digitization of Business Models
- Digitization of Products and Services.

These two dimensions provide the fundamental basis for our research and will consequently be used to evaluate the impact on the Circular Economy. In a first step the role of business models on the circular economy will be reviewed in order to answer the question whether digital technologies will enable new business models that help the Circular Economy. In a second step the digitalization of products and services will be investigated in order to understand whether they will enable the shift towards a more circular economy.

The role of the business model in a circular economy

While the basic ideas of a circular economy trace back to the 1980s (see the original work of Stahel and Reday-Mulvey, 1981 and McDonough and Braungart, 1992), there is limited scientific work on how the proclaimed shift of the economy will translate into new business models on a micro-economic level. Establishing a new economic order with a clear focus on the recovery of material flows instead of generating excessive amounts of waste will require a fundamental change in consumer behaviour. Next to altered purchasing behaviour, this development will also require consumer acceptance of reverse business models and new forms of re-manufacturing and upgrading. For customers in mature markets, who are used to linear business models for decades, this challenge of the status-quo will be one of the major barriers to overcome. The millions of customers that now enter the so-called bottom-of-the-pyramid segment in emerging markets might be easier to convince of sustainable business models (Goyal et al., 2014).

While it has to be acknowledged that every attempt to define mutually exclusive categories brings along certain trade-offs, Chart 1 can be seen as a basic framework for developing new business models in a circular economy. This framework introduces a clear hierarchical order: (I) as the closest circle and thus the most efficient one in terms of energy needed to bring the resources back into use and (IV) as the widest circle and thus the least efficient one. This hierarchical order is also based on the fact that closer circle business models act as catalyzers for downstream business models along the next loops. When ownership of products is replaced with access-based business models (I), for instance, this allows for a more efficient establishment of return networks since using time is limited and return of the product is part of the contract. This in turn enables refurbishment (II) and re-manufacturing (III) business models in the next step in order to bring back the resources into use. The shift from ownership to other forms of temporary usage is consequently at the core of a transformation towards a circular economy and the basis for establishing effective reverse networks on various levels.

The development of a circular economy will thus require a pervasive shift in consumer behavior. While ownership of products is still of utmost importance to consumers in developing countries, research shows that in most saturated markets consumers tend to realize the downside of ownership (Terporten, Bialdyga and Planing, 2012). It might not be a wise choice, for instance, to store a power drill for years while it will be used only for a few minutes during its lifetime (Friedmann, 2013), or paying insurance and motor vehicle tax for a car that on average stands still more than 22 hours of the day (Rifkin, 2011). New, collaborative, business models now allow for access instead of ownership, which increases the capacity utilization and thus the efficiency of the deployed resources. This, however, can only be a first step towards performance-oriented business models. These business models presume that consumers don't want access but rather want to have a certain performance, e.g. having a hole in the wall to fix their shelf, for which access to a drilling machine is only one possible solution – maybe not even the most efficient one. Finally also these business models can only be seen as an intermediate step towards result-oriented business models, which are targeted at the desired outcome, e.g. fixing a shelf on the wall. From a customer perspective, new business models aimed towards more efficient use of resources can thus be categorized into four main categories, see Table 3.

Business model category	Short explanation	Source
Ownership-based business models	Customer purchases a product and owns it right away	-
Access- or Usage-based business models	Customer purchases a certain usage period or access period to a certain good	Sempels, 2014
Performance-based business models	Customer purchases a defined performance, normally not bound to a defined product	Cinquini, Di Minin and Varaldo, 2013
Result-based business models	Customer purchases a defined end result	Sempels, 2014

Reviewing this table, it becomes apparent that the underlying consumer business model is a catalyzer for the circular economy. When moving along from ownership towards result-based business models the incentives for a circular value chain increase manifold. When a customer buys a defined performance as opposed to a defined usage time the service provider will have a strong incentive to extend the product-life by refurbishing, repairing or by providing a longer-lasting (and thus more expensive) product in the first place. Say a washing machine is defined for lasting exactly two years. In an ownership-scenario this machine would be sold to a consumer and then eventually discarded after two years. In an access-based scenario in which the consumer leases the machine for 24 months a leasing corporation might be interested in remanufacturing the machine after the leasing period but will not be ready to invest more in a washing machine that lasts, for instance, 3 years. In a performance scenario, a service-provider would be highly interested in purchasing a machine that holds 50 percent longer and thus increases the revenue by 50 percent. In a results-based scenario, the service-provider might be ready to invest even more for a machine that

also is more water and/or electricity efficient since in this scenario the service provider will cover the full costs of the operation.

How digital business models impact the circular economy

We have seen that a move from ownership-based to results-based business models will lead to a situation where long lasting, easy to repair and easy to update products gain strong competitive advantage over the low-cost consumer products that prevail today in most ownership models.

The digital transformation is inevitable linked to this trend since these new business models generally require real-time data transmission and seamless payment process. One could argue that Access- or Usage-Based Business Models, like carsharing, have been around for years and are not linked to the digital transformation. The breakthrough of this business models, however, was only possible due to the proliferation of new digital technologies. Imagine you need to call a hotline to reserve car, figure out on a road map where it is located and then manually transfer money based on the usage length. What might be acceptable for a week-long car rental is unthinkable of for a 10-minute car ride with a Zipcar. The same is true for performance-based business models, such as taxi or chauffeur services, which have been around for decades but eventually got replaced by ride-hailing services like Uber or Via. According to Veit et al. (2014), a 'business model is digital if changes in digital technologies trigger fundamental changes in the way business is carried out and revenues are generated'. Since the fundamental changes increase when business models are transferred from ownership-based to result-based, we conclude that the Digitization of Business Models can actually be measured along this dimension. Chart 2 gives an overview on the digital business model spectrum

Chart 2: Digitization of Business Models, Source: Based on Sempels, 2014; Cinquini et al. 2013

Business model category	Short explanation	Example Mobility	Example Software
Ownership-based business models	Customer purchases a product and owns it right away	Purchasing a car	Purchasing a Software Package
Access- or Usage-based business models	Customer purchases a certain usage period or access period to a certain good	Carsharing (e.g. Zipcar), Rental Car	Purchasing a software license
Performance-based business models	Customer purchases a defined performance, normally not bound to a defined product	Taxi Services, Ride-Hailing Services (Uber)	Using a cloud based service (SaaS)
Result-based business models	Customer purchases a defined end result	A-B mobility services (moovel)	Using a serverless computing service
Free- and Freemium business models	Customer gets service for free. Either advertising based, commission based or based on priced add-on features	Google Maps	Google Android OS

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Digitization of Business Models

In sum, it becomes obvious that the digital transformation acts as an enabler for the shift towards more result-based business models and as such can be seen as an enabler for the Circular Economy as a whole. Next to new, more digital, business models the products and services become more digital as well, opening up further opportunities for the shift towards a more circular future.

How the digitisation of products and services impacts the circular economy

The degree of digitization of products varies strongly among industries. The spectrum reaches from complete physical products over *digital enhanced products or services* to *completely digitized products* (Hanelt et al., 2015). Digital enhanced products combine physical products or services with digital services. Examples include connected cars with over-the-air update services (e.g. from Tesla) or a smart refrigerator with a refilling service (e.g. from Samsung). Services also fall into this category, such as a traditional bank offering online banking as an option to their clients. Completely digitized products are the extreme form of digitization, resulting in a complete change of the value chain. Examples stem from the world of publishing (e.g. ebooks) and music creation and distribution (MP3s).

Iyer and Venkatraman (2015) argue that *digital enhanced products* fall into two distinct categories, which they framed Digitization 1.0 and Digitization 2.0. The example of a connected car with a proprietary operating system and OEM-based over-the-air updates falls into the first category. A connected car with an open platform software architecture, allowing 3rd parties to develop apps for navigation, communication, and entertainment, would fall into the second.

Until now, there is no common agreement for the respective categories of product and service digitization. Yet, it becomes obvious that the continuum from completely physical to digital products is one major dimension along which the developments of the digital transformation take place. Between the two extreme poles, there are hybrid categories of partially digitized products. Enhancing the customer value of physical products with an increased use of software and a connection to the internet is one classical example. For such devices, the physical product still provides the core customer value as a standalone product, while the digital components and services are additional value-creation factors. Examples for such physical products are a connected car, or a smart refrigerator. An example for a physical service in this category is a traditional savings account with additional online-banking access. On the next level towards completely digitized products are hybrids with the digital component as the core value creator. Examples are smart phones or smart TVs. For these products the majority of customer value actually lies in the digital offerings that are enabled by the hardware. The hardware, thus, merely serves as an enabling platform for the digitized products and services that are consumed through it. Chart 1 summarizes the product and service digitization spectrum.

Chart 1: The Digitization of Products/Services, Source: Based on Iyer and Venkatraman (2015)

Category	Characteristics	Examples
Physical Product	Value creation is completely physical	Food, Gasoline, Construction Material
Digital enhanced products (Digitization 1.0)	Connected Devices enabling digital Services	Connected Car, Smart Refrigerator, bank account with online banking option
Digital enhanced products (Digitization 2.0)	Connected Devices which act as a platform for multiple online services	Smart Phones, Computers, TVs, Connected Home Devices
Completely Digitized Products	Value creation is completely digital	MP3, ebooks, online gaming, online direct insurance,

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Digitization of Products/ Services

The development along this dimension is of vital importance for the shift towards a more circular economy for multiple reasons. First, the tendency to reduce asset-based production or service providing processes leads to decreased waste and energy generation. Think of e-publishing as opposed to traditional book publishing as an example. Second, the increased speed of product and service creation as well as instant communication processes enables companies with a higher degree of digitization to capitalize on upcoming trends faster and avoid suddenly occurring risks. Take digital on-demand publishing as an example. Instead of printing tons of books centrally and shipping them around the world in the blank hope of their need, modern on-demand publishing prints books right when and where they are needed. Third, the Digitization creates a higher degree of disintermediation, bringing the corporations closer to their customers during the usage phase. Traditionally a producer of consumer goods has no information whatsoever where his products are sold, nor who is actually buying or using them. With connected products the OEM can not only get direct customer feedback in order to improve the product but is also able to trace the product usage, which is a prerequisite for many circular business models. Think of the usage of a connected TV, which can be upgraded over-the-air, but also can be taken back after a defined usage phase in order to be refurbished or remanufactured. This is only possible when the manufacturer knows exactly where its product is located and how it is used. Digital technology enables this in a most convenient and cost-effective fashion.

Conclusion

There is little doubt that the shift towards a Circular Economy provides huge opportunities for companies, customers and the environment. While this shift is still in its infancy, the digital transformation already promises to be a key enabler towards this development. Digital technologies will enable smart products and even smarter business models that could potentially boost the recovery of pure material flows and remanufacturing scenarios. The success of certain digital business models, such as e-publishing or carsharing, give a glimpse at the opportunities for the circular economy derived from digital technologies. This might only be the starting point for a more fundamental change. Consumers will be tempted to move away from the current purchase-own-throw away business models towards more intelligent asset utilization if the underlying business models get more attractive. The financial benefits alone, however, will not translate into widespread acceptance of these business models. More research on consumer acceptance of circular economy business models will be

necessary for meeting the expectations of entrepreneurs and policy makers. The hypotheses developed throughout this paper provide a starting point for future research in this regard. In particular, empirical research focusing on (1) stakeholder motivation to develop digitalized, circular economy business models and (2) consumer behaviour regarding the acceptance process of these business models and the related digital products will be the key prerequisite for the future development of this field. Only a profound understating of the motivations of different market actors as well as an in-depth analysis of consumer acceptance or rejection reasons will ensure that digital business models in the realm of the circular economy become reality.

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Motivating to co-create value: “Polakpotrafi.pl” crowdfunding platform case

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Abstract

The aim of the article is to review customers' motivations to participate in value co-creation process in the crowdfunding context, based on the analysis of Polakpotrafi.pl, Poland's biggest crowdfunding platform, launched in 2011. The authors attempt to answer two research questions: 1) How do project creators motivate funders to support their projects? 2) Do creators attempt to establish and nurture long-term relationships with funders?

Taking into consideration the aim of the study, as well as its context (virtual environment), the research method adopted was netnography (Kozinets, 2012). Deductive content analysis of the descriptions of 108 successful projects and users' comments from the “Music” category was conducted to identify and analyze the ways of motivating funders.

The research study revealed that in the “Music” category dominated appeals to intrinsic motivations, in particular the social ones (such as enjoyment in being part of a community, patronage-support, encouragement, financial help and sense of cooperation). Extrinsic motivations were rare. Project creators did not attempt to develop and nurture long-term relationships with funders.

Key Words: value co-creation, crowdfunding, motivation, open innovation, marketing

Introduction

The evolving needs of consumers enforce changes in the functioning of companies, which need to adapt to new environmental conditions and to develop new conditions themselves. The fundamental element of these processes is co-creating value with customers, a phenomenon that fulfills Toffler's predictions of prosumerism era, made in the eighties of the last century (Toffler, 1997), and is considered to be the determinant of the new ways of competing (Pralhalad and Ramaswamy, 2005). Value co-creation can take different forms- co-operation between customers and companies to achieve individual benefits (one-to-one) or broader group benefits (all-to-all) (Doligalski, 2013). Value co-creation can take place also between companies and other market entities, including competitors (Cygler et al., 2013; Nalebuff and Brandenburger, 2003; Cygler, 2009). All-to-all value co-creation has recently become very popular, due to the proliferation and growth of Web 2.0 based services (Mazurek, 2009).

The current technological advances enable market entities to participate in broader scope of more diversified forms of value co-creation, and this is why more companies decide to engage in such activities (Ramaswamy and Guillart, 2010). An interesting form of value co-creation is crowdfunding, which is sourcing financial resources from relatively big number of funders, who contribute small amounts of money via internet (Doligalski, 2013). Crowdfunding can be understood also as a specific type of open innovation, as the essence of an open innovation is in “outsourcing” of some elements of innovation generating process to external entities. A crowdfunding project’s success depends to much extent on how it is described by its creator, and what rewards are promised to motivate potential funders to provide their support.

The aim of this article is to identify and review the motivations to participate in value co-creation activities in the context of crowdfunding, based on the analysis of Polakpotrafi.pl crowdfunding platform. The ways how projects’ creators motivate funders to obtain their support are identified and analyzed. The authors also validate some propositions generated by previous researches, in particular whether creators and funders use crowdfunding as a tool to develop and to nurture long-term relationships.

The article consists of 7 parts. In the first we review literature on value co-creation and crowdfunding, and motivating in the crowdfunding context. The second part presents research methodology adopted. Next, research results are presented, followed by discussion, managerial implications, limitations to the study, further research directions and conclusions.

Literature Review

Value co-creation

The interest in the phenomenon, commonly referred to as “value co-creation”, started with Prahalad and Ramaswamy (2000, 2002, 2004a, 2004b) works postulating that the locus of economic value creation shifted from in-house R&D to the interactions between a company and customers. The term “value co-creation” implies that value is generated from collaboration of these actors in manufacturing of products and services (Cova et al., 2011). According to Foster (2007: 715), value co-creation is “the phenomenon of corporations creating goods, services and experiences in close cooperation with experienced and creative consumers, tapping into their intellectual capital, and in exchange giving them a direct say (and rewarding them for) what actually gets produced, manufactured, developed, designed, serviced, or processed.” As Ritzer (2009) and Cova et al. (2011) point, co-creation is neither new nor specific to contemporary business practice, as consumption and production are intrinsic, so is co-creation to all forms of economic activity. Cova and Dalli (2009) discussed previous research streams that considered active participation of consumers in the market, although these research streams deal with different aspects of consumption practices. The current marketing and management discourse of value co-creation differs from the previous ones, as it tends to emphasize the fact that companies are increasingly dependent on the active participation of customers in the value creation process and, hence, development of their competitive advantage.

The rapid growth of internet and, in particular, the user-generated Web 2.0, placed practices of value co-creation in the center of a company’s economic value creation (Cova et al., 2011; Ritzer and Jurgenson, 2010). Technology expansion resulted in

blurring boundaries between companies and customers, contributing to change of roles of customers and companies. The problem of value creation and value co-creation in particular generates intense debate among marketing scholars. For example, Cova et al. (2011) discuss the question whether customer participation in value co-creation is not a form of exploitation of free labor. Active participation of customers in value creation process requires some sort of government, aiming at, by making them partners in mutually beneficial innovation and production, reducing the risk of their unwanted behavior or preventing its undesired evolution (Cova et al., 2011; Rose, 1999). Value co-creation, as proposed by Prahalad and Ramaswamy requires some form of control over consumers, so companies need platforms to benefit from customers' creativity and knowledge, along with mechanisms to direct their activities in the desired way. Value co-creation challenges companies to develop environments that program customer freedom to evolve in direction that is beneficial to them. Collaboration between companies and customers is not, however, the most important point made by Prahalad and Ramaswamy. Instead, they highlighted the development and delivery of unique value to customers, resulting from converging roles of producer and consumer. Co-creation, in result, should lead to market offerings that are customized or at least non-standardized, commanding premium prices and defending themselves against commoditization.

The prominence of discussion of value co-creation and related problems in marketing and management literature raises the fundamental question of value understanding. Value itself is an elusive concept (Woodall, 2003; Grönroos, 2011). In the literature, value concepts imply some form of assessment of benefits against sacrifices (Grönroos, 2011), means-ends- models (Woodruff, 1997; de Chernatony et al., 2000), hedonic appreciation of the consumed object (Holbrook, 1994), or assessment of monetary gains created in mutually beneficial business relationships (Grönroos and Helle, 2010). Grönroos (2011) points that we know very little about the process of value creation, its constituents or even when it starts and ends. Although the term "value creation" is one of the most ill-defined and elusively used (and overused) concepts in marketing and management, the expressions such as "value creation" or "value co-creation" are frequently used in the literature (Grönroos, 2011). The expression "creating value" stipulates conscious and explicitly considered process, however, in many situations value is experienced unconsciously, and rather emerges during consumption process.

Current research on value co-creation is based on multiple approaches, that embrace different conceptual stances, providing varying propositions in attempt to define what the concept of value co-creation actually encapsulates. Multitude of contributions have resulted in many definitions, approaches and interpretations of how market actors, such as companies, customers and suppliers co-create value. The conceptual complexity of value co-creation cannot be understood with the available empirical evidence, typically case-study based and industry-specific (Saarijärvi et al., 2013). The value of such studies, rooted in some of the many theoretical conceptualizations of value co-creation, is often questioned. The nuanced nature of value co-creation makes its intellectually exciting topic for academic enquiry, yet the concept is also significant from the practical perspective. Managers face not only the dilemma of what value co-creation actually means in their situation, but also how it can serve the objectives of their business. These dilemmas have yet not be answered by scientific research, which provides rather illustrative, not prescriptive propositions, with limited value outside specific industry or even business case. The theoretical relevance of the concept is far away from its practical importance then (Saarijärvi et al, 2013). As the value co-creation is

multifaceted and approached from many perspectives, it is argued that its theoretical development might be endangered and can produce in “empirically empty structures” (Arndt, 1985).

Saarijärvi et al. (2013) made point, stating that the diversity of the concept of value co-creation results from multitude of interpretations of “value”, the “co-“ and the “creation” (p. 10). Breaking value co-creation into its three parts allows better understanding of the fundamental issues which, in turn, might allow finding common ground between the different approaches and interpretations. Further, Grönroos and Ravald (2011) proposed that clarification in terms of the roles of actors in value creation is crucial to understand the importance of the concept for both academic research and business practice. Saarijärvi et al. (2013) proposed analytical framework for dismantling “value co-creation” into its following constituent parts:

- “*Value*”- what kind of value for whom? That is a) what value for customer, b) what value for a company and, c) what kind of value?
- “*Co-“*- by what kind of resources?
- “*Creation*”- through what mechanisms?

Prefix “co-“ defines the actors that participate in value co creation and additional resources involved in the process (Saarijärvi et al., 2013). It seems necessary to state who participates in the process and what this actor brings into.

Under “creation” one should define the processes of resources’ integration, that actors bring in order to actualize value potential, that is activities performed and mechanisms through which the resources integrate into value-in-use (Saarijärvi et al., 2013). These mechanisms are activities led by companies, customers or communities, and examples of such mechanisms include co-production, co-development and co-design (Frow et al., 2010; Sheth and Uslay, 2007, Doligalski, 2013). All these, relatively novel both to academic research and business practice, exemplify customers’ resources engagement in the value creation for a company. Not only are these mechanisms innovative themselves, but, more important, they provide opportunities for creative and unorthodox reconfiguration of both actors’ roles and resources deployed in them. The value creation process is here supported or sometimes led by the customers. A company can, on the other hand, implement mechanisms that activate additional resources to support customers, such as customer service. Most authors stress the role of technology, as facilitator of the emergence of different value creating mechanism (Saarijärvi et al., 2013). Technology allows transferring resources efficiently from one actor to another, and in some specific cases, such as crowdfunding, may be the prerequisite for value co- creation to occur.

As rapid developments in technology allow more companies, regardless their size, to capitalize value co-creation opportunities, one should remember that the value creation process has always two sides, that is both company and customer perspectives must be taken into consideration (Gupta and Lehman, 2005). Moreover, value is not always co-created, even if innovative approach is adopted, and the new roles of customers and companies are acknowledged. To engage actors into innovative resource integration and, in result, for value co-creation to occur, mutual incentives must be provided, either monetary or more intrinsic/ subjective. Hence, before engaging customers into any process, a company should design customer incentives, that is benefits that customers derive from putting their resources into the value co-creation process. Therefore, it is

necessary to understand what intrinsic and extrinsic motivations drive customers into value co-creation with a company (Antikainen, 2011). At this initial stage, one should define what benefits a company expects, and how will the process of value creation be supported. Another vital area of consideration is determining precisely, what type of resources customers are expected to bring into the process, such as money, creativity (ideas), feedback (testing products or services). Lastly, a company should identify the mechanisms to integrate these resources with a company's or customers' value creation process, that is what are the mechanisms through which company's resources are integrated into customer's processes and vice versa. In general, all these decisions aim to accommodate the change of roles played by customers and companies.

Crowdfunding as a form of value co-creation

Crowdfunding, as specific form of crowdsourcing, is a concept related to open innovation in that resources necessary for value to be created / co- created in the form of new venture (such as knowledge and – more importantly – capital) are perceived to exist externally to a company. Unlike some forms of open innovation, crowdfunding begins with precisely defined objective - that is rising specified amount of capital to commercialize idea, or innovation already specified. It does not require legal framework or contractual setting between a funder (a donor) and a creator of a venture (e.g. a startup company). Similarly to crowdsourcing, crowdfunding engages “amateur” enthusiasts or even random people, who do not need to have any professional knowledge or experience in the field related to a startup to be financed. It may be questionable, whether the value is really co-created in crowdfunding context, as there is obvious asymmetry of benefits, that is a venture financed is the primary beneficiary of the process. However, recent research studies into motivations of crowdfunding and crowdsourcing participants provide initial insights into motivations and expectations of people participating in such activities (Battistella and Nonino, 2012).

The phenomenon of crowdfunding is discussed often in the context of changing roles of consumers. While always central to marketing concept, the role of consumer evolved over time, which was reflected in the marketing literature. For example, the rather passive target of marketing activities, as approached by “functional school” of the 1970s (Barksdale and Darden, 1971), consumers became key providers of information in “marketing orientation” stream (Kohli and Jaworski, 1990). The appreciation of more active role of consumer was evident within service marketing literature, in which they were acknowledged as co- producers of service or partners in innovation processes in the “lead-user” theory (von Hippel, 1986). More currently, within the service-dominant logic literature, consumers are regarded as co-creators of value (Vargo and Lusch, 2004; Grönroos, 2011). The general tendency over the last three decades is, therefore, the enrichment of consumer roles and empowerment of her position towards a company. This tendency has been undoubtedly fuelled with the expansion of internet, which enabled consumers to take the role of investors.

The phenomenon of crowdfunding is defined as a collective effort by people, who network and collect funds together, usually through internet platform, in order to invest in and support ventures initiated by other people or organizations (Ordanini, 2009; Ordanini et al., 2011). By paying for production and promotion of a market offering instead of buying it, people bear multiple risks involved with their decision, financial being the most important. Ordanini et al. (2011) argue that crowdfunding represents a further step in the evolution of consumers' roles, which they regard as involving a mix of

entrepreneurship and social network participation. Crowdfunding initiative is undertaken to raise money for a new venture proposed by someone, by collecting small to medium-size investment from several other people (crowd) (Ordanini, 2009). A crowdfunding project involves typically three parties: people proposing a venture, crowd, that is people deciding which venture to support, and the crowdfunding organization. The “crowd” of people co-produces ventures, selecting these perceived being the most promising or interesting. For bearing risks, crowd members expect some payoffs.

The crowdfunding organizations relay on the recent technological advances, such as Web 2.0, bringing together investors and organizations seeking capital. Crowdfunding differs from charitable or social cooperation activities, in that funders (donors) act as investors, expecting certain returns, either financial or intangible such as status, social esteem or identification (Ordanini et al., 2011). Crowdfunding models incorporate some elements of crowdsourcing frameworks (Dell, 2008). The basic idea underpinning crowdsourcing is that the community members join efforts to generate idea or work for community's advantage, such as leveraging its bargaining power. In crowdfunding the aim of collective effort is collecting capital to fund the already specified idea or project. The mechanisms of crowdfunding resemble also social networking, as consumers actively participate in exchange of information, knowledge and ideas in the online community environment. Yet the role of consumer in crowdfunding is more proactive, and the engagement has straightforward consequences: the selection of venture and its funding. Crowdfunding, though sharing some characteristics with social networking is unique, as it creates service platforms that allow financial resources pooling to fund new ventures. As mentioned earlier, to some extent, crowdfunding is similar to service, as it requires active customer participation, however, in the crowdfunding situation customers are not only integrated in the service delivery phase, but in design and commercialization of the venture (Edvardsson and Olsson, 1996; Moeller, 2008). What makes crowdfunding specific is that customers, through their decisions and financing, make offering's generation possible (Ordanini et al., 2011). Unlike in the service context, where production and consumption are simultaneous (or the same), in crowdfunding customers allow developing market offering that will be consumed by others. Both lead user theory (von Hippel, 1986) and open innovation (Chesbrough, 2003) focus on this situation, stipulating that some users can predict market needs earlier, providing companies with forecasts of otherwise latent demand. In this respect some customers may provide innovation and knowledge necessary to develop new products (von Hippel and Katz, 2002). While lead users may share some similarities with those participating in crowdfunding projects, their number is limited and they may not participate in the process at all (Lillien et al., 2002; Ordanini et al., 2011). Since rather big numbers of people participate in crowdfunding projects, the most innovative or the most knowledgeable individuals might have no bigger influence on the development of the venture than others. Crowdfunding shares also some similarities also with open source phenomenon. In an open source situation, some aspects of development and production of an offering are outsourced to many people provided with the offering's source materials (von Krogh and Spaeth, 2007).

Value co-creation in crowdfunding can be analyzed following Saarijärvi et al. (2013) analytical framework (Table 1).

Table 1. Value co-creation in the context of crowdfunding - an analytical framework

	"Value" What kind of value for whom?	"Co" By what kind of resources?	"Creation" Through what kind of mechanism?
Customer/ funder	Benefits to individuals donating funds: Direct contact with creators Social participation Free products Free services	Time People (direct contact with artists) Atmosphere Possibility to use project creator's resources, such as musical instrument Knowledge	Cooperation with project creators, e.g. composing and playing music together, socializing, starring in a video clip
Company/Creator/ Project	Investment Market foresight Initial demand/orders Promotion in online communities Disseminating information about the venture/ awareness creation Developing and nurturing relationships with customers Validation	Monetary resources Promotional effort Emotional support	Producing a products Project's realization Inspiration
Crowdfunding platform	Revenue Experience	Technology – internet platform	Creator- funder communication

Source: own based on Saarijärvi, H., Kannan, P. K., Kuusela, H. 2013. „Value co-creation: theoretical approaches and practical implications”. *European Business Review*, 25 (1), 6-19.

Due its newness, crowdfunding is not yet well understood phenomenon. One of the most important knowledge gaps relate to consumers' motivations to fund a specific venture, roles played by consumers and crowdfunding platform providers. Crowdfunding initiatives involve many new issues that require research inquiry, such as the selection of ventures to be supported, financial investment by consumers, and outsourcing of entrepreneurial risk by organization setting up the crowdfunding activity (Ordanini et al., 2011).

Motivation in the crowdfunding context

Motivation is the driving force within individuals that impels them to action (Shiffman, Kanuk 2010). In marketing, motivating process is approached and analyzed from consumer's perspective. Marketing scholars and practitioners are interested in the incentives that can be used to influence consumers' behavior. Pucinelli et al. suggest that goals, information processing, memory, involvement, attitudes, affective processing, atmospherics, consumer attributions and choices are the key elements of consumer behavior that drive the consumer decision process (2009).

Despite the criticism, the Maslow's hierarchy of needs remains the most popular theoretical framework applied in marketing to explain the motivating process behind human needs. It identifies five basic levels of human needs: physiological needs (food, water, air, sex), safety and security needs (protection, order, stability), social needs (affection, friendship, belonging), ego needs (prestige, self-esteem, status), and self-fulfillment (self-actualization).

An interesting perspective on motivating in the context of crowdfunding is provided by the literature on motivations in the gift-giving context. Researchers who study the psychology of gift-giving seek to understand why people give and how to get more individuals to give. Factors influencing gift-giving include sympathy and empathy (Rick et al. 2007), guilt (Cialdini et al. 1981), happiness (Liu, Aaker 2008) and identity (Aaker, Akutsu 2009). The framing of request can also influence the amount of the donation (Liu, Aaker 2008). For example, in laboratory and field studies, researchers found that people will ultimately donate more money to a charity if first asked how much time they would like to donate (versus how much money they would like to donate) (Liu, Aaker 2008). This suggests that motivations for giving are related to interpersonal connections between the giver and the requester, and their communication styles.

Motivating to participate in value co-creation in the context of crowdfunding can be analyzed from funder's, project creator's, and platform owner's perspective. In this article, emphasis is put on motivating from project creator's perspective.

Leimster et al. (2009) suggest that in open source and crowdsourcing situations participants are motivated by learning, direct compensation, self-promotion and social benefits. However, in crowdfunding situation, "crowd" members are expected not only to provide knowledge, effort, and promotion but – more importantly - financial resources. Ordanini et al. (2011) argue that with this evidently more intensive participation, different motivating factors should drive participants.

Research into brand communities may explain some of motivations in crowdfunding. As brand communities include consumers deeply involved with a brand offering them symbolic benefits, participation in such a community may develop sense of shared identity (Muniz and O'Guinn, 2001). Brand owners can engage these consumers into new product development, quality reassurance and experience sharing (Ouwensloot and Oderkerken- Schroeder, 2008). Participation in a brand community seems to provide consumers with an array of intangible benefits mainly, such as fun, learning, identification and status, when shared in social networks (Bagozzi and Dholakia, 2006). Schau et al. (2009) suggest that online brand communities are contexts of collaborative value creation. While some of intrinsic motivations typical for brand communities may

determine crowdfunding participants, literature on brand communities does not consider the key characteristic of crowdfunding which is the provision of financial resources.

Financial factors are included in the study of donor behavior and microfinance (Kotler and Andreasen, 1991; Cermak et al., 1994; White and Penaloza, 2009; Rutheford, 2000). In both cases, people are motivated by non-economic benefits, such as self-esteem, public recognition and relief from guilt or obligation. Although these factors may motivate participants in crowdfunding situation, the presence of investment and risk allows to assume that the motivations of crowdfunding participants are not solely non-economic. The issue of risk is well addressed in consumer behavior literature, however the focus is on the risk perceived by consumers when purchasing and using product or service, not when investing money. This is addressed in the literature on private equity. According to Ordanini et al. (2011), crowdfunding is related to “business angels” phenomenon, which bases on similar mechanism. A group of individuals with expertise and available funds, not involved in formal financial institution, provides capital for someone else’s venture (Freear et al., 1994). Sullivan and Miller (1996) suggest that this informal venture-capital activity is motivated by economic goals, hedonic and altruistic considerations. The main difference, however, is that the size of business angels’ group is very limited, and these individuals have entrepreneurial expertise and experience in joint investment. In this respect, individual investor’s risks and costs in crowdfunding context are very limited (Ordanini, 2009). As the amount of funding provided by an individual participant in crowdfunding initiative may be considerably very low and many crowdfunding platforms do not offer any financial payoffs nor equity, one can hypothesize that economic benefits may not be the most important motivators in crowdfunding.

A qualitative study by Ordanini et al. (2011) offers some insights into motivations of crowdfunding participants. They identified such motivations as feeling of responsibility for the success of others’ ventures (desire for patronage), desire for social participation, desire for investment (expecting payoffs). The same study identified also several traits of crowdfunding participants, such as innovative orientation (desire to try new modes of interacting with companies and other consumers), social identification with the content, cause or project. From value co-creation perspective, these authors found that crowdfunding participants are key players, activating the process and influencing the ultimate value of offering or outcomes of the process (Ordanini et al., 2011). Customers not only screen and evaluate projects to support financially, but also promote them to online communities by disseminating information. Customers act therefore as resource integrators, integrating talent (of others), their money, and promotional efforts (through social networks) (Ordanini et al., 2011). Without participation of customers, value could not be created – either for companies (which cannot develop offering due to the lack of funding), or for other customers (who will not be able to obtain and consume the offering), or the crowdfunding facilitator (no revenues). Therefore, crowdfunding provides a concrete illustration of how value is co-created by customers, in line with service-dominant logic. The service companies act as resource integrators as they provide infrastructure necessary for crowdfunding project. They provide technological, organizational and relational inputs, that facilitate interactions between other value co-creators.

Qualitative study by Gerber et al. (2012) shows that project creators use crowdfunding to raise awareness of their ventures and to receive validation of their creativity, which is

in line with theories of self-efficacy, stating that people's perception of their abilities grows when receiving public recognition (Bandura, 1986).

Table 2 presents the review of motivations to participate in value co-creation in the context of crowdfunding.

Table 2. Motivations to participate in value co-creation in the context of crowdfunding.
Motivation - Please contact author to view this table

Source: own work based on Battistella C., Nonino, F. 2012. "Open Innovation web-based platforms: The impact of different forms of motivation on collaboration". *Innovation: Management, Policy & Practice*, 14 (4), 557-575.

Although the motivations to participate in value co-creation activities, including crowdfunding, have been discussed in the literature, studies investigating how creators of projects may influence potential funders through various incentives, such as presentations and descriptions of their projects, are limited (Mitra and Gilbert, 2014). Moreover, the research studies conducted so far did not consider the interactions after a project was funded, such as comments from satisfied or dissatisfied funders, or possible replies from projects' creators. Polish crowdfunding platforms have received little attention so far. Taking into consideration the above identified research gap, the authors aim to answer the following research questions:

- 1) How do project creators motivate funders to support their projects? Do these motivating activities correspond with those identified in the literature?
- 2) Do project creators nurture long term relationships with funders? What happens when the promised benefits are not delivered? How many projects are supported by returning funders?

Research method

Taking into consideration the research objective, the context and the above stated research questions, netnography was chosen as research method (Kozinets, 2012). Netnography is the research of computer-mediated social interactions based on methods developed in classic ethnography (Kozinets, 2012). Netnography is referred to as virtual ethnography (Hine, 2008; Hancock et al., 2010; Jemielniak, 2013), "connective ethnography" (Dirksen et al., 2010), "digital ethnography" (Murthy, 2008), "internet ethnography" (Sade- Beck, 2008).

We have adopted simplified procedure for conducting netnographic research as proposed by R. Kozinets (2012), which is presented in Table 3.

Table 3. Simplified procedure for netnographic research

	Netnography stages according to R. Kozinets (2012).	Steps proposed by the authors
1.	Definition of research questions, social areas or topics/ issues that constitute research subject	1) How do project creators motivate funders to support their projects? Do these motivating activities correspond with those identified in the literature? 2) Do project creators nurture long term relationships with funders? What happens when the promised benefits are not delivered? How many projects are supported by returning funders?
2.	Identification and selection of a community	Polakpotrafi.pl crowdfunding platform; category- "Music"
3.	Observation of selected community	Naturalistic observation of the descriptions of the projects and commentaries using observation sheet, including three main categories observed/ subject to observation
4.	Data analysis and interpretation of results	Quantitative and qualitative content analysis, conducted with qualitative data analysis service focussou.pl

Source: own work based on Kozinets 2012

There are more than 12 various crowdfunding platforms in Poland. Polakpotrafi.pl (which translates to "*The Pole can do*") is the first and the biggest non-equity, all or nothing crowdfunding platform in Poland (only these projects that collect the targeted amount in the specified time receive funding, otherwise, money is returned to funders). Since its launch in 2011, it attracted 1297 projects and 5794238 PLN (1610097,33 USD, taking the exchange rate of 1 USD= 3,63 PLN), and generated 70474 money transfers. The biggest project realized collected 284110 PLN, and the average success rate for projects is 49% (to compare, Kickstarter, world's biggest crowdfunding platform launched in 2009 has supported so far 76000 projects, and collected 1 Billion USD from 7,7 Million users, with average success rate of 39%).

Table 4. The Comparison of Polakpotrafi and Kickstarter crowdfunding platforms

	PolakPotrafi	Kickstarter
Year established/ launched	2011	2009
Numer of projects submitted	1,297	197,740
Total amount of money collected	\$1,610,097.33	\$1,467,586,982
Average success rate for projects	49%	39%

Source: statistics from kickstarter.com, polakpotrafi.pl

To maintain coherence of the groups analyzed, the authors focused on in-depth analysis of the projects from “Music” category. This groups was selected because of the number of successful projects. According to Polakpotrafi.pl owners, this is the most popular group, constituting 17% of all projects. In 2014 this category attracted 119 projects, 69 of which were successful (58% success rate above the average for the whole platform. This is similar to Kickstarter, where success rate for the music category is above the average (43%). The average time to complete a project was 40 days.

To investigate the approaches used by creators to motivate the funders, we used deductive content analysis (Stone et al., 1966; Weber 1990). We analyzed 108 descriptions of successful projects and comments generated by Polakpotrafi.pl users, published since the launch of the platform in 2011.

The research instrument was observation sheet, consisting of three key categories subject to observation:

1. Categories related to a project’s characteristics (name/title of the project, project creator (a person), expected amount of funding, amount collected, number of supporters, minimal and maximal amount of funding, duration of a project).
2. Categories related to motivating funders (number of reward categories, types of proposed rewards, number of updates, project’s description, media support, Facebook profile).
3. Categories related to relationships with funders (number of people supporting under own name, number of people supporting other projects, comments of satisfied and dissatisfied funders, creator’s reaction to comments).

Qualitative analysis of projects’ descriptions and comments was conducted with content analysis service focussion.pl.

Findings

In total, we analyzed 108 successful projects funded via Polakpotrafi.pl crowdfunding platform from the category “Music”. The most frequent projects in this category were music bands collecting funds to record an album or produce a video clip. Less frequent were collections to organize concerts or workshops, or music-related publications (e.g.

music magazines). An average collected percentage of funding was 122%, average amount of funding expected by projects' creators was 6489 PLN, and collected – 7860 PLN. Each project gathered on average 94 funders (median – 69). Repeat backers constituted, on average, 25% of funders.

Project creator's approaches to motivate funders

When analyzing the ways project creators motivated funders to support their projects, attention was paid to recommendations platform owners provided to beginners, categories of rewards selected for funders by creators, and the way a project was described.

The owners of crowdfunding platform published on the site www.polakpotrafi.pl the following “explanations” “why people support projects”:

1. *“Rewards!” the creators inspire people to invest in their projects offering brilliant, funny, tangible rewards (unique products, bonuses and experiences).*
2. *“Stories!” Polakpotrafi.pl are experiences of real people, who make creative things, love funny things or simply these, which are worth being noticed. Each project its own story, developed through posts on a blog or videos presenting dreams becoming reality. Browse our page and find on your own how important it is to support and be supported!”*

These above “explanations” are consistent with the basic motivations of funders identified by Van Winegerden and Ryan (2011), that is intrinsic economic (rewards), individual intrinsic motivations (experiences, joy), and extrinsic social motivations (it is important to support and be supported).

Project creators decide on their own how many and what types of rewards they will provide to funders in return for their support. Average number of rewards categories in a typical music project was 14, 36 being the highest and 6 - the smallest. Table 5 presents the list of rewards categories together with corresponding motivating factors, and the type of a need satisfied.

Table 4. Top 20 Rewards categories, motivating factors and funders' needs

Reward category	Number of projects with a specific category	Motivating factors	Type of a need satisfied (Maslow's hierarchy of needs)
1. Personal acknowledgements	108	Extrinsic, individual	Ego needs
2. a music single/ music album/ product's electronic version	83	Intrinsic, economic	Social needs
3. a CD	79	Intrinsic, economic	Social needs
4. private performance/ concert	76	Intrinsic, social/Extrinsic, individual	Ego needs
5. a signed album	69	Intrinsic, economic	Social needs
6. a ticket for an event	56	Intrinsic, economic	Social needs
7. a music/ acting lesson or workshop	39	Intrinsic, individual	Self-fulfillment
8. t-shirt	36	Intrinsic, economic	Social needs
9. logo on album's cover or placed in a video clip	35	Extrinsic individual	Ego needs
10. lunch/ dinner / coffee/ drink with a band members	35	Intrinsic, social	Ego needs
11. special performance of a musical piece/ song	30	Intrinsic, social	Ego needs
12. a bag	16	Intrinsic, economic	Social needs
13. performing as member of a band	15	Intrinsic/Extrinsic, individual	Self-fulfillment
14. picture of a band	15	Intrinsic, economic	Social needs
15. a trip	13	Intrinsic, individual	Self-fulfillment
16. video clip/ being in a video clip	12	Intrinsic, social	Ego needs
17. a DVD	8	Intrinsic, economic	Social needs
18. a poster	7	Intrinsic, economic	Social needs
19. the title and status of a patron	6	Extrinsic, individual	Ego needs
20. a mug/ cup	5	Intrinsic, economic	Social needs

Source: based on research results.

Videos are important element of a music project's descriptions, that is pointed by the owners of crowdfunding platform. Among all the projects analyzed, only one did not include video materials in its description (though it included audio). 55 of 108 project creators encouraged funders to support their projects by inviting them to like their special Facebook profiles. 48 provided links to a website dedicated to a project. 43 projects had local, and sometimes national media support (information portals, press, television).

Three modes of project's description were identified:

- 1) *Solemn* (“Dear Sir or Madam”, “We would kindly ask you to...”)- typical for projects such as concerts, events and workshop.
- 2) *Familiar/ unceremonious* (“Dears”, “Hello”, “Hey”, “we need your help”) - typical for the most of the music bands collecting money to record and publish an album, and
- 3) *Cabaret* (“Hi there!”, “You drop us some dough, buying ULTRA rewards, and we, thank to you, are able to make this album! Together we are unstoppable party beast, nothing can stop us!)- typical for not so serious projects, often parody or cabaret related, described with a tongue in cheek.

The most dominating was *familiar/ unceremonious* tone.

The analysis of how frequently specific words were used in projects’ descriptions revealed that when applying for funding, creators appealed to community spirit of funders, and specified why they needed financial help. The list of words most often used to express expectations towards funders included the following: “We need your support”, “We need financial support”, “We need money”, “We need your help”, “We need (financial) resources”.

We analysed 10 284 words, and 2 675 phrases. Table 6 presents how often the most frequent words appeared in the descriptions of the projects:

Table 6. The words used in the descriptions of the projects most often.

Word/ expression	Frequency	Word/ expression	Frequency
CDs	295	Everybody	25
Music	206	Tracks	25
Project	119	others	25
Band	97	musical	24
Recording	76	Culture's	23
Support	73	Persons	23
Year	67	release	22
Thanks	67	me	21
Very	65	artists	21
We need	56	concert	21
Help	52	wasy	21
More	51	realize	21
Concert	49	costs	21
Album	46	A few	20
Composition	39	In the form	20
Release	37	Rewards	20
Polish	61	Festival	20
Material	36	people	20
Together	35	guitar	19
Now	34	collect	19
Many	34	record	19
Could	32	Of amount/ amounts	19
Video clip	32	money	19
Songs	50	The first	18
mastering	27	beyond	18
studio	26	many	18
Would succeed	26	Musical	17

Source: based on research results.

The descriptions of the projects were dominated by appeal to intrinsic, mainly social, motivations: social participation, "participation spirit", enjoyment of being part of a community, patronage (support, encouragement, financial help) (Ordanini et al., 2010). Examples of projects' descriptions using intrinsic social motivations are presented below:

This country needs good video clips, and we need your support (...) We want sweat, blood and satisfaction from realization of our vision. Thanks to you we will be able to realize it.

It will not be possible without your help.

We will be very grateful, if you allow us to make our dreams come true.

We ask you for your support and help, each penny counts and we say thanks for each one!!!

We have arrived to the point, in which we need “Divine intervention”- support from our fans and third parties (which we hope to cotton to us!)

Thank to YOU our album will reach the media (radio stations, music portals, press and so on), to the people responsible for organizing concerts and festivals.

Do you want to have influence on Polish recording industry? This is the right place to be!

Economic motivations appeared rather sporadically:

Have look on what we have to offer. In “rewards” section you will find something for yourself.

Of course, the more money we collect, the more interesting rewards you will have/ get.

Of course, nothing comes free (...) In exchange for your support, we offer you fresh digipacks with lyrics and excellent graphics, and other gadgets (t-shirts, bags, stickers)!

Interestingly, none of the project descriptions analyzed included extrinsic motivations. These findings confirm previous research results reported in the literature, that is the domination of social intrinsic motivations in crowdfunding participation.

Relationships between creators and funders

The second research question related to long-term relationships between creators and funders. Ordanini et al., (2010) suggest that establishing long-term relationships with funders is one of the factors motivating both entrepreneurs and funders to engage in crowdfunding activities (Gerber et al., 2012). Crowdfunding platforms are perceived as a way to promote an idea or a business (Mitra and Gilbert, 2014).

The number of updates in a project’s description and the mode of reaction to comments was used as the measure of a creator’s willingness to maintain relationships with funders. The number of comments posted by funders was used as the measure of their willingness to maintain relationship with creators.

The average number of updates for projects in the “Music” category was 5 (median 3), and the average number of comments was 3 (median 1.5). This suggest that both funders and creators did not have high willingness to maintain relationship after a project was funded (28 projects had no updates, and 40 – no single comment!). One can hypothesize that at least in the “Music” category a crowdfunding platform is more suitable for a band to start career and to find additional, not full, funding of an album. Relationships with fans are established and nurtured somewhere else and in a different way.

Creators often admitted that amounts of money they applied for were “a drop in the bucket”. Often the amounts of funding requested were lowered, just to obtain project’s funding faster or at all:

Trust us, the sum we request is not high one - it is minimal. But if we, by chance, collect more, we will spend the entire surplus on supporting this publication, its promotion and “final touch”.

The amount of support requested via Polakpotrafi.pl will provide for CD production only.

About 25% of funders in the “Music” category supported more than one project. The “crowd” consisted predominantly of people providing funding for the first time, including probably friends, family members and acquaintances of creators who asked for support. The highest number of updates and comments accompanied projects that had troubles with fulfilling promises made. The groups analyzed included 5 such projects. Table 7 presents their characteristics.

Table 7. Projects reported not to fulfill promises made.

The Title of the Project	Amount raised in PLN	% of funding raised	No of funders	No of comments	No of updates	No of rewards
Video clip „Hera koka hasz LSD”	36911,41	461	506	57	13	36
Help us to publish music quarterly M/I	31764	132	628	46	11	26
POSPOLITE RUSZENIE debut album	4488	104	55	8	20	12
The first DEMO of MIDRANGE band	4586	101	34	1	0	12
The power of life according to the rhythm	4845	121	71	1	0	10

Source: based on research results.

The most serious problems were experienced by projects that received the highest amount of funding and attracted the biggest number of supporters. The funders most often reported the following issues:

- 1) Late delivery of rewards:

I suppose the mailman delivers my t-shirt from the factory, on his knees...

Hi, I asked seriously what should I do will I receive nothing...you said the dispatch was somehow 3 weeks ago...

- 2) Considerably late delays in the realization of a project (from six months to a year):

When will rewards be dispatched? This has been a year since the project was funded...???

Hi. This has been six months since the project was funded and I have not yet received any information regarding the dispatch of CD or any update. I expect some info, this is why “update” section is here for, isn’t it?

- 3) Having received rewards perceived to be of low value or wrong ones:

I have received a t-shirt, but this is not my size. I asked for female, size M, and got XL.

Not to say I care a lot for your trinket, but for my 17 PLN I have received some leaflet and a sticker. Shall I understand that these things - not a leash or a pinch – are what you meant, when you wrote “nice things”?

- 4) The lack of contact from a project’s creator:

Absolutely no communication and reply to my emails nor Facebook messages. Pity, that after successful completion of the project the supporting people are treated like that.

Three creators replied to comments and inquiries from dissatisfied funders, justifying delays and errors with a high number of dispatches:

Dears,

I ask you for understanding, please. 506 dispatches - there is no way to do it 100% perfect! I understand your concerns and I apologize that it takes so long. All things have been dispatched, and had you not received them yet, email me . Hugs!

And I looking forward to seeing the day all, every single package is delivered and everybody is happy!

There is so many of you that we had to figure out some system to deal with dispatches. Please, be patient. Whoever filled the questionnaire will receive, what promised.

Or independent situational factors:

We are very sorry for the whole situation. We have sent all items, however, the Post failed to deliver them to you.

All projects that experienced problems with fulfilling their promises were proposed by natural persons. The analysis did not indicate that creators fostered long term relationships with their funders.

Discussion

The comparison of our research results with the results of Kickstarter's study by Mitra and Gilbert (2014) allows to state that creators of projects in crowdfunding platforms use similar words and expressions to attract the attention of funders and to convince them to support their ventures. Similar to Kickstarter, phrases suggesting that even the smallest amount of money counts, were very popular: *"Each support counts"*, *"Each, even smallest support is gold for us"*, *"Each, even smallest amount of money you wish to support my project with, will be great help"*.

Creators tend not to treat their projects purely in business terms, perceiving funding their projects as some social support or patronage. This is understood, considering the category analyzed. Musicians represent creative industries, in which the lifestyle of an entrepreneur is more important than business objectives (Chaston, Sandler-Smith, 2012). They often face the dilemma between artistic and business goals of their projects, being led by products rather than market orientation (Awdziej, Tkaczyk, 2013). This might be the reason why the descriptions of the projects were dominated by the lists of past achievements of their creators, artistic qualities of the projects, and not by the benefits for the funders. When the benefits were described, the emphasis was put on both tangible and intangible rewards related to intrinsic motivations - individual, social, and economic. Extrinsic motivations were scarce. The provision of rewards was enforced by the specificity of the crowdfunding platform itself. The creators decided, however, how many and what type of rewards they will provide.

The creators tend to value the opportunity to co-create products. Among various categories of rewards for funders there are positions that allow such possibilities, and they are valued more than the basic or standard products (they are also limited). The examples of value co-creation include possibilities to play music together with creators, entitling a song, composing, writing a poem, or recording a funder's own composition. These rewards were, however, rarely selected by funders, as consuming them requires specific skills. This is why other categories of rewards were more often selected by funders (e.g. CDs, tickets). An example of value co-creation, according to the model

proposed by Saarijärvi et al. (2013) is starring in a band's video clip or spending free time with its members (e.g. fishing trip).

Although crowdfunding is suggested to be suitable for establishing relationships with customers (Ordanini et al., 2010), no special attempts to sustain such relationships after project's funding were identified. Most of creators treat crowdfunding as one-off transaction, in which one kind of resource (money) is traded for another (reward), and not as long-term relationship development. A possible reason behind that is that many creators overestimate their abilities, especially natural persons who face high levels of support. They are not often aware how long it would take them to realize the project, so 6 – 12 months delays with initial deadline were not so uncommon. Not being able to fulfill the promises (often due to objective reasons) may result in guilt and avoidance of contact with funders, because of a "shame" feeling.

Managerial implications

The analysis conducted is the first in-depth study of a Polish crowdfunding platform. The results of this study can support the owners of platforms when developing recommendations for creators. The creators can use them to make their applications for funding more successful. The majority of creators from the "Music" category did not exploit the whole potential of crowdfunding platform for value co-creation, e.g. they do not care about long-term relationships with their funders. On the other hand, the owners of crowdfunding platforms should be more interested in effective methods of encouraging funders to support many projects, or donating money more frequently.

Limitations and further research

The most important limitation to our study is focusing on one category only. However, this was the exploratory study, that will be continued in all categories of projects funded by Polapotrafi.pl platform. Additionally, our study was limited by the fact, that the platform presents successful projects only. Public access to unsuccessful ones is terminated as soon as money collection ends. Therefore, the comparison of successful and unsuccessful projects was impossible. We think that identification which ways of motivating are more effective is an interesting area of further research. The ways creators motivate funders should be also confronted with individual motivation of funders, and compared across different categories of projects. This research study provides good departure for explanatory study. Our observations suggest that big number of rewards' categories, along with the media support and presence in the social media might positively affect the amount of funding a project can collect via crowdfunding.

Conclusions

In this article, the analysis of crowdfunding from the perspectives of value co-creation was presented. Value co-creation model applied to analyze crowdfunding was adopted from Saarijärvi et al. (2013). The classification of motivations to support crowdfunding projects was provided. An in-depth analysis of the ways of motivating funders in Poland's largest crowdfunding platform, Polakpotrafi.pl, in the "Music" category, was conducted. The earlier propositions, available in literature, were supported. In the category analyzed, the most frequent approaches related predominantly to intrinsic motivations, while appealing to extrinsic motivations was rare. In the case of intrinsic

motivations, the most frequent was the social one. Among the needs that the creators of projects aimed to satisfy through project's presentation and rewards categories, social, ego, and self-fulfillment dominated. The analysis did not indicate that creators fostered long term relationships with their funders. On the other hand, the funders were not interested in long term relationships with creators they supported, either. Some projects were not able to deliver the benefits promised. In such situations, the majority of creators attempted to react, however, their responses were delayed and usually involved justification for the situation encountered. In the most of cases the source of problems was overestimation of own capacities to deliver benefits as promised, especially when the number of funders was considerable. Another reason was overoptimistic assumptions regarding deadlines for fulfilling one's obligations. Approximately 25% of funders supported more than one project, so for the majority of funders crowdfunding was one-off experience.

Risk-sharing seems to be one of the most important advantages offered by crowdfunding. Both creators and funders experience uncertainty regarding success of their projects. However, as the risk is shared by many, crowdfunding provides a unique opportunity to realize projects that will otherwise have not chance to obtain more traditional investment.

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Extending tourism supply in the republic of Croatia through “halal-friendly destination“ concept – possibilities and limitations

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Abstract

In the context of trends and challenges of halal tourism on global level, this article analyses potential of halal tourism in the overall tourist offer of Republic of Croatia as „Halal-friendly destination“. Tourism is one of the most important industries of the Republic of Croatia therefore it is essential to constantly improve existing products as well as creating new ones.

This article focuses on the process of extending and improving tourism supply through its adjustments to needs and expectations of the “Islamic tourist” who is primarily the buyer for „halal tourism products and services“. These trends create new possibilities for diversification of Croatia's tourism supply and its product portfolio. „Halal tourism“ concept, as a specific way of communication with market niche motivated for tourism expenditure based on religious feelings, might become one of competitive advantages especially through building network of all stakeholders. For example, development of halal tourism is an opportunity for promotion and placement of Croatian halal products through halal food offerings in HoReCa channel.

Analysis of tourism supply of the Republic of Croatia as halal-friendly destination is contextualized on several levels as following: comparison of tourism supply of the Republic of Croatia as halal-friendly destination according to criteria of Crescentrating, identifying the potential of halal niche in the overall tourism supply in the Republic of Croatia and establishing the level of networking for all important tourism stakeholders as an important prerequisite of business effectiveness.

Using extensive literature review, primary research using structured surveys among halal tourism services providers is conducted. Main research goal is to examine attitudes of current halal tourism services providers in the Republic of Croatia in order to further explore possibilities and limitations that focusing on this concept might result with.

Key words: Tourism supply, Halal, Halal-friendly destination, Republic of Croatia

Introduction

That the Croatian tourism is one of the most competitive sectors of the Croatian economy is confirmed by the latest The Travel & Tourism Competitiveness Report (2015) by the World Economic Forum on the competitiveness of travel and tourism, according to which the Croatian tourism sector ranks on 33rd place with significant information about the positioning of Croatian tourism in the global tourism market. Most positive ranked factors were Infrastructure of tourism services (ranked 6th), Health and

hygiene (ranked 18th), International openness (ranked 19th) and Security and safety (ranked 28th). Entering the EU in 2013, Croatia has sought some new opportunities among well positioned and developed competitors on receptive EU markets such as France, Spain, Italy, Germany, Portugal and Austria, all of them emphasizing specific differentiating factors when forming their strategies and positioning.

With natural beauties, cultural heritage and especially vast number of unurbanized areas, Croatia has many possibilities to develop and adjust its tourism supply and accommodation capacities making this Croatia's differentiation factor and a major asset (AlkierRadnić, 2005). However competitiveness of Croatian tourism should be viewed regarding other popular tourist, especially Mediterranean destinations which can be somewhat harder to evaluate due to differences in quality depending on factors from infrastructure, environment to social surroundings (Vuković, 2006). Moreover, Croatia's tourism is highly concentrated with emphasis on summer season, coastal area, although inland areas, especially the capital, city of Zagreb, have had a significant increase of visits and nights, and a supply structure showing inbound tourists coming mostly from Austria, Germany, Slovenia, Italy, Bosnia and Herzegovina, Poland and Hungary (Mirošević, 2014). Therefore this paper aims to investigate further the possibility of extending Croatia's tourism supply through the concept of halal-friendly destination; a distinguishable possibility for differentiation.

Halal Tourism: Definition and Concepts

For Islamic tourists religion is an important factor in determining tourism expenditure and affects destination choices with all accompanying accommodation and hospitality options (Olsen, 2006). Also according to MasterCard-Crescent Rating Global Muslim Travel Index (GMTI) report (2015, p5) Muslims are becoming important consumers, searching products that fit their faith based needs and are also younger, more educated, with higher disposable income and interested in traveling with expenditure projected to grow to \$200 billion. Also, travel is rooted in Islam and various form of travel can be interpreted also in terms of tourism. Such travel is, according to Kovjanić (2014):

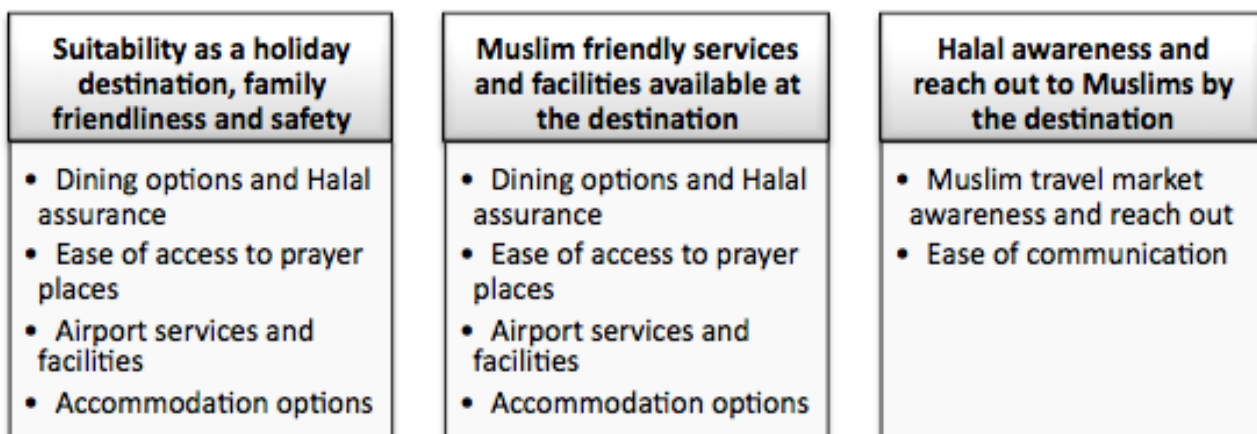
- Hijja (هجرة) involves travel and pilgrimage to Mecca, which is requirement for every healthy adult Muslim, at least once in lifetime, to take the Hajj, unless physically unable.
- Zejara (زيارة) refers to visit to other holy places.
- Rihla (رحلة) is a trip for other reasons, such as education and trade. The emphasis is on purposeful movement, as a component of the spiritual journey in the service of God.
- Shari'ah (شريعة) law determines what is acceptable - halal (حلال), and what is unacceptable - haram (حرام) in everyday life and during travel.

Halal service providers also use different terms when describing such tourism offer varying from Muslim-friendly hotels, halal vacation, Islamic holidays to halal-friendly destinations which can even lead to misunderstanding to different consumers sub segments within the niche (ibid). According to Dunman (2011, p6) Islamic tourism can be defined as “the activities of Muslims traveling to and staying in places outside their usual environment for not more than one consecutive year for participation of those activities that originate from Islamic motivations which are not related to the exercise of an activity remunerated from within the place visited.” It is considered that, however,

implementation of halal tourism needs to be consistent with the definition and terminology of halal tourism.

Research on quality perception of Islamic tourists (Rahman, 2014) has detected the importance of Islamic attributes present within the tourist destination such as: Availability of mosque and a copy of Al-Qur'an, Availability of prayer facilities at tourism sites, Placement of Qibla stickers in hotel room Availability of halal food at tourism sites. Afore mentioned GMTI also detects nine criteria (Figure 1) in three areas that contribute to the overall index score for each destination regarding its susceptibility for Islamic tourist.

Figure 1: The GMTI 2015 criteria to the overall index score for each destination.



Source: created by authors according to MasterCard-Crescent Rating Global Muslim Travel Index 2015

Also, studies have been conducted stating exact preferences of Islamic tourist regarding their choice and usage of tourist offers (Islam and Kärkkäinen, 2013; Jurković Majić, 2010; Serhan and Alobaita, 2013). All of this shows that Islamic consumer should not only be viewed in terms of being an important segment, but also importance of recognizing that within such tourists there are different needs and wants that need to be met accordingly.

Croatian Tourism and Halal-friendly Positioning Possibilities

As already mentioned one of the main characteristic of Croatian tourism is its high seasonality with its long-standing strategically effects as stated by some authors (Kožić et al, 2013, Kožić 2013, Lim, and McAleer, 2001) and the fact that the seasonality can be viewed as a consequence of Croatia's mostly coastal hotel industry with its «sun and sea» concept rather than some particular innovation or attraction in tourism supply (Kožić et al, 2013) regardless of its prominent UNESCO heritage sights. Without extension of tourism supply and diversifying its portfolio with according marketing tactics Croatia will be strategically threatened in terms of its tourism competitiveness. Therefore, in this paper we emphasize the innovative features and models of managing destinations and tourist facilities, which might show potential for growth.

Regarding this particular aspect, mass marketing strategy employed so far with the structure of emotive markets might be viewed as restraining therefore abandoning the mass marketing strategy and focusing on a more differentiated one especially in terms of seeking for new markets should be aligned with general tourism trends that successful destinations employ. This strategically turn, requires proper market segmentation and positioning. Islamic consumers represent such a niche, since their buying behaviour is determined by many specificities of their culture, religious specificities above all. Positioning a destination such as Croatia as a halal-friendly one has all the opportunities to become an innovative and differentiated tourism product. The main prerequisite for successfully attracting consumers from reputable halal market is the development of so-called adaptive halal tourism offers that are already present; increasingly in Croatia's food industry (Jurković Majić, 2007). Another prerequisite in positioning Croatia as a halal friendly destination is certifying hotel industry as well as horeca channel members as halal with properly implementing all necessary requirements. Current inbound arrivals from GCC countries, according to the research done by the Croatian Institute for Tourism (2014) is extremely low somewhat due to inefficient promotion of Croatia in those countries and somewhat due to unsatisfactory tourism supply in terms of accommodation level, attractions and leisure opportunities. Therefore, opportunities for halal positioning should be in the focus of all tourism stakeholders.

Croatian tourist halal offer should respond to the challenges of the global halal market by choosing appropriate strategies. Studies conducted in Croatia show that the most important factor in choosing a tourist destination by Muslim tourists is availability of halal food (Jurković, 2010). During 2010, a Regulation on categorization of halal quality certified restaurants was issued. The regulations are also implemented for hotels and can be divided in three categories as viewed in Table 1.

Table 1: Categorization of halal quality certificate for hotels

CATEGORY LEVEL	CATEGORY ATTRIBUTES/REQUIREMENTS
HALAL A LEVEL PACKAGE CATEGORY	Certification for hospitality and restaurant management, certification of categorization by authorized Ministry, HACCP or ISO 22000:2005 system requirements, halal food supply from approved suppliers and producers (that have halal certificate and that are approved by the Centre for certifying halal quality), storage and preparation of halal food according to HRN BAS 1049:2010, educated staff on halal quality requirements by the Centre, specially marked place with halal certification for service or self-service of halal food, visibly marked halal menu in the usual menu, visibly marked halal certificate at the hotel reception (upon request of the guest additional explanation must be provided), marked SE in the room, providing prayer time schedule as well as prayer mat, empty mini-bar from alcoholic drinks. Educational programs for all hotel staff from low to high management.
HALAL B LEVEL PACKAGE CATEGORY	All A halal category level included with additional requirements of not serving alcohol nor haram food.
HALAL C LEVEL PACKAGE CATEGORY	All B halal category level included with additional separate swimming pools for man/women.

Certification for hospitality and restaurant management, certification of categorization by authorized Ministry, HACCP or ISO 22000:2005 system requirements, halal food supply from approved suppliers and producers (that have halal certificate and that are approved by the Centre for certifying halal quality), storage and preparation of halal food according to HRN BAS 1049:2010, educated staff on halal quality requirements by the Centre, specially marked place with halal certification for service or self-service of halal food, visibly marked halal menu in the usual menu, visibly marked halal certificate at the hotel reception (upon request of the guest additional explanation must be provided), marked SE in the room, providing prayer time schedule as well as prayer mat, empty mini-bar from alcoholic drinks. Educational programs for all hotel staff from low to high management.

Table 2 shows the list of halal certified hotels and restaurants in Croatia with the location of hotel/restaurant, their name and halal category certified. As it can be seen, hotels and restaurants are mostly certified with the A level, with one restaurant in the city of Split having a B level category. There are no institutions so far in Croatia that is certified on the C level.

Regarding tourist agencies that have halal certificate in Croatia there are only 7 of them six in the city of Zagreb and one in the city of Rijeka. The certification process is accompanied by intense promotion on the first specialized portal for the promotion of Croatian as Halal friendly destination of tourism - The Best Halal Holiday. The aim of the portal is to enable tourists and business people from around the world in the simplest and most convenient way to find and book one of the many types of accommodation with Halal certification both in Croatia and in the world. Portal offers the possibility of advertising through marketing space for all subjects related to Halal and promotion of halal products and services.

Research Methodology

Looking at halal tourism offer as a value-added offer of the Croatian and guided by the fact that Croatian tourism has to make a step to attract new market segments, the research conducted explores the attitudes of tourist stakeholders- namely management (hotels, tourist agencies and public management) about the potential of halal tourism offer with special emphasis on the views of managers who have implemented halal so far. The research was carried out in three directions: hotel management which operates on the principle of halal, management of travel agencies that operate the halal principles and attitudes of public management (Ministry of Tourism, Ministry of foreign affairs –regarding the visa regime, the Agency for Halal quality, tourist boards, chambers, etc.). Convenient sample was used because of the number of those stakeholders who are halal certified. Overall 13 hotels participated and 10 institutional experts.

Data collection was carried out by in-depth interview with subsequent questionnaires measuring attitudes of hotel management about the potential of halal tourism offer, and measuring the attitudes of management from travel agencies. The questionnaire that measured attitudes of hotel management consisted of a list of statements, grouped into four units (general information about the hotel, the halal category and reasons for introduction of halal, perceptions and preferences of halal hotels, potential) while the second questionnaire consisted of a list of statements grouped into three sections

(general data on the travel agency and the reasons for the introduction of halal tourism offer, consumer preferences, the potential of the halal supply). The survey was conducted during January/February 2016.

Table 2: List of hotels/restaurants that are halal certified in Croatia

BASKA/KRK	
1. Hoteli Baška	A
DUBROVNIK	
2. Konavoski Dvori	A
3. Nautika	A
4. Proto	A
5. Hotel Rixos	A
KRAPINSKE TOPLICE	
6. Toplice hotel	A
KOPRIVNICA	
7. Podravska klet	A
LIPOVAC	
8. Hotel Spačva	A
LIVADE	
9. Restaurant Zigante	A
OPATIJA	
10. Hotel Mozart	A
11. Bevanda D.O.O	A
RIJEKA	
12. Grand Hotel Bonavia	A
SLAVONSKI BROD	
13. Hotel Art	A
SPLIT	
14. Istah Kebab&Meze Bar	B
UMAG	
15. Hotel Sol Umag	A
VARAZDIN	
16. Hotel Turist	A
ZADAR	
17. Restoran Pašta& Svašta	A
ZAGREB	
18. Hotel Aristos	A
19. Esplanade Zagreb Hotel	A
20. Sheraton Zagreb Hotel	A
21. Westin Zagreb Hotel	A
22. Les Ponts restaurant	A
23. Zvona Catering	A
ROVINJ	
Maistra d.d. Hotel Lone, Hotel Monte Molini	In the process of acquiring A
BIOGRAD NA MORU	
Ilinja d.d. Hotel Adriatic, Difuzni hotel Ražnjevića, Restoran Marina Komati, MB Nada, Biograd	In the process of acquiring A

Source: Authors using information of Agency for halal quality certification of Croatia

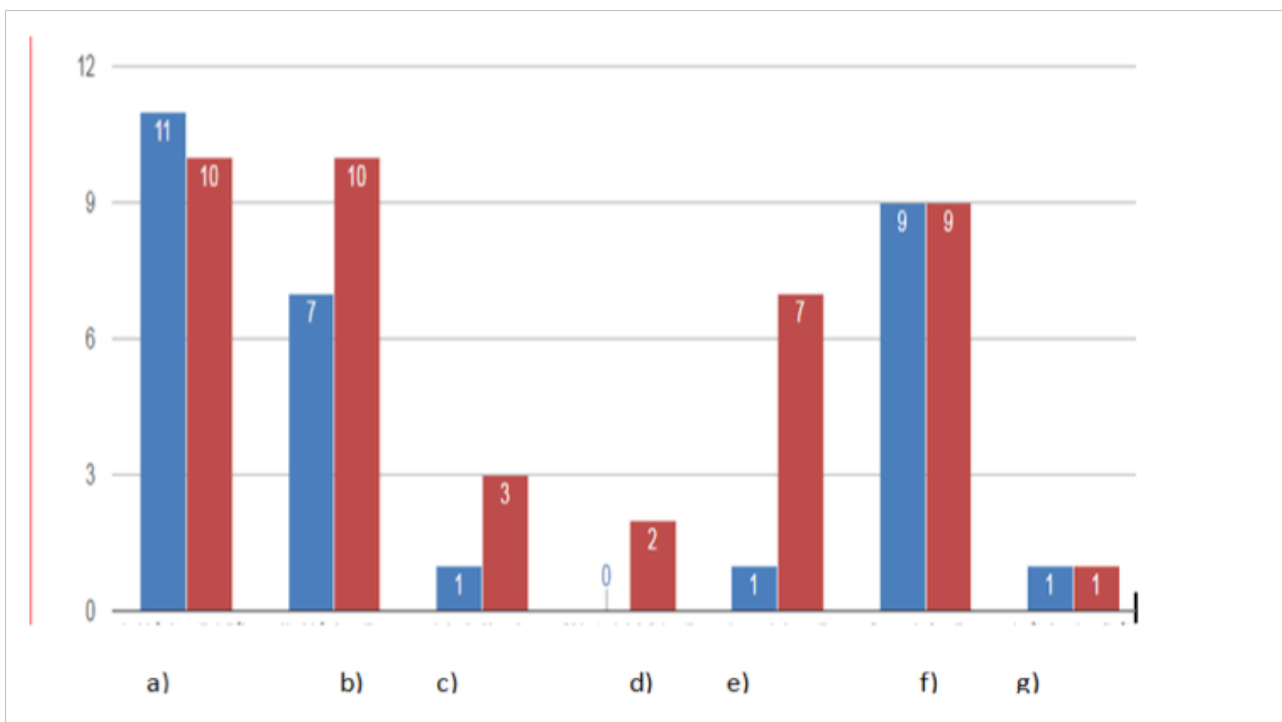
The in-depth interview guide was used as an instrument of interviewing and the data was systemized according to results.

Research Results

As the main reasons for the introduction of halal tourism offer by hotel management was to attract and adapt hotel offer for guests who live by Islamic principles (Table 3).

The management of public agencies, tourist boards, chambers, and officials of the Ministries emphasize attracting tourists to target markets where consumer behaviour is determined by religious principles. Managers of tourist organizations state the reason for the introduction of halal offer was to attract tourists from Islamic countries and meet the management and satisfaction of Islamic tourists. Recommendation from the agency of halal certification is also a significant factor (a: attracting guests who live by the Islamic principles, b: attracting guests who are representatives of specific target, c: written inquiries on halal, d: previous guest reviews, e: recommendations of tourist organizations and agencies, f: recommendation of Agency for halal certification, g: other).

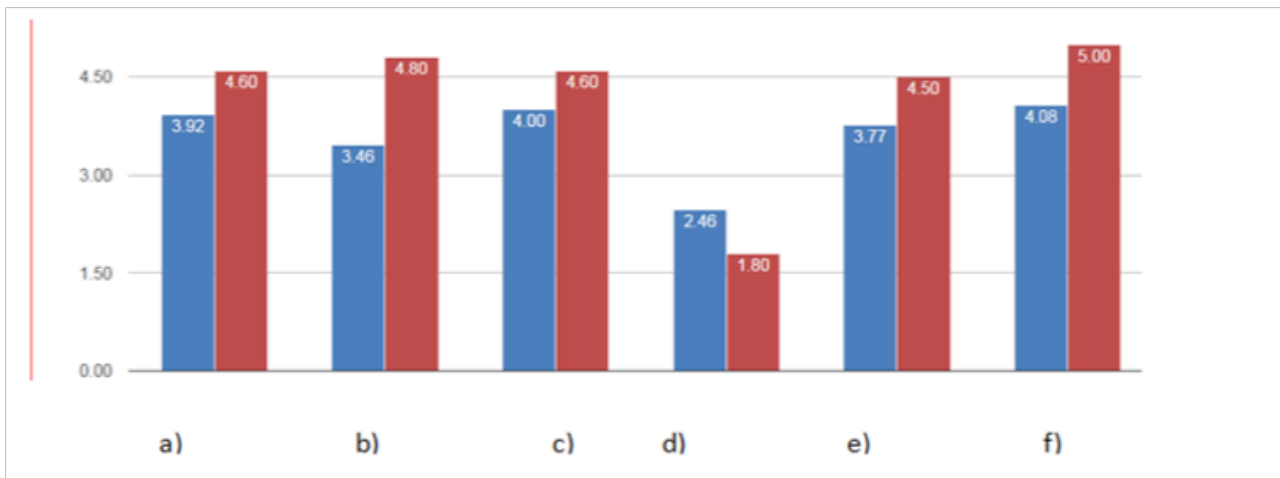
Picture 1: Reasons for introducing halal quality certificate (hotels/experts)



When asked about the structure and demography of tourists who stayed in the hotels and used services having halal certificates were more educated tourists and those with higher disposable income. Most usual are group visits, but there is an increasing number of business visits for tourists as well.

When asked to grade on a scale from 1-5 their view of consumer behaviour connected to halal certificate all three stakeholders have stated that it makes the decision-making process much easier. Although they all agree that halal user is not treated differently in major terms than the regular users, there is a slight difference in attitudes among hotel and agency management with later scoring slightly higher on attitude scales regarding attributes such as information provision, and giving out the answers (Table 4; a: gives information on halal offer, b: gives answers how and where to use certain halal service, c: adjusts serving system of halal within the institution d: extracts halal user from other users, e: confirms specificity of the service provided, f: makes the process on using (not using) certain tourist offer more easier)

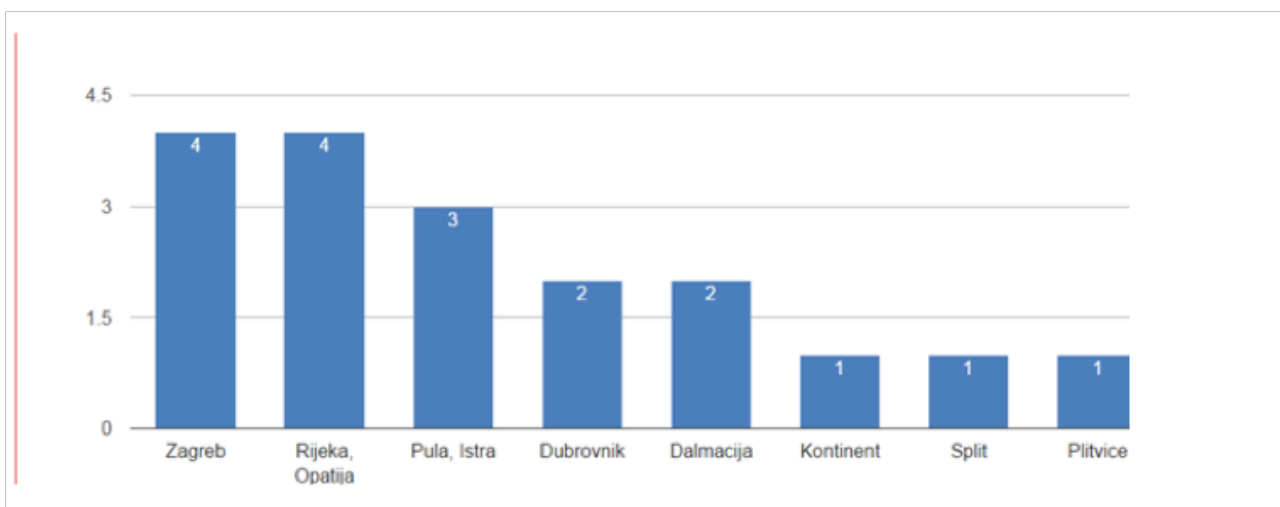
Picture 2: To what extent does halal certificate affects on clients buying behaviour (hotels/experts)



During the in-depth interviews experts (agencies) have confirmed that they get inquiries on halal certified tourism and hospitality institutions equally from all markets (EU countries, Arab, Asian and neighbouring countries), while hotels were mostly getting inquiries from the EU countries following with Arab (UAE, Kuwait and Iran scoring highest), Asian and neighbouring countries. This is not surprising due to inbound tourist structure of Croatia.

What is also interesting is the fact that Zagreb and Rijeka (which apart from Zagreb has a mosque) are the most desirable halal destinations when individual destinations are concerned (Table 5). However, hotel management also stated that destination itself is sometimes not that important as long as desired tourist facility has halal certificate.

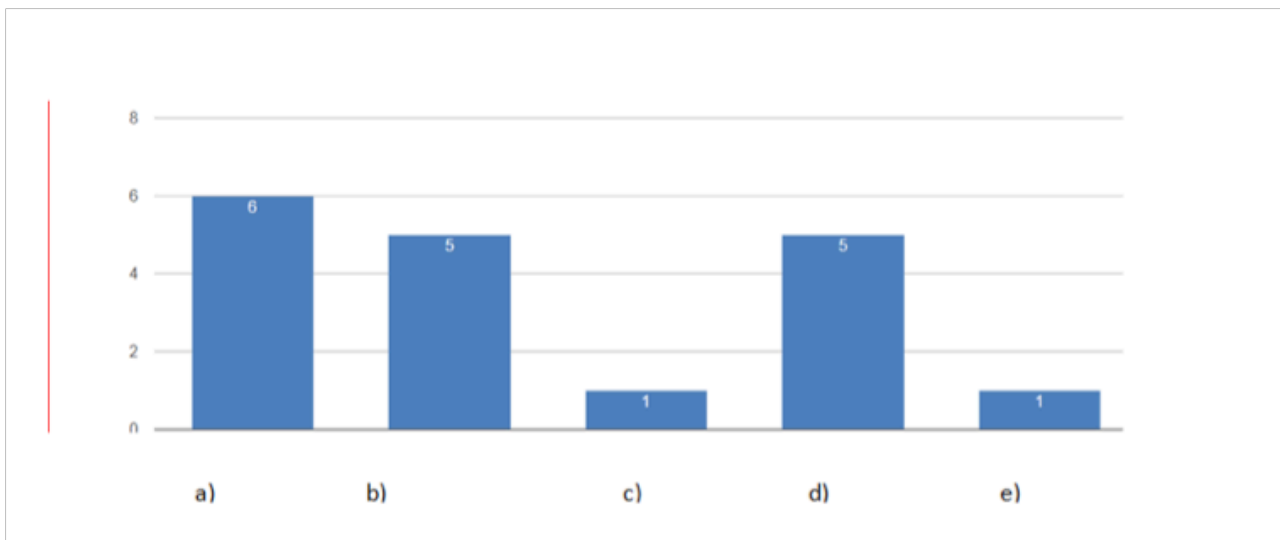
Picture 3: Desired destinations in Croatia from halal certification perspective



Further, when asked about educational trainings of staff regarding halloo certification, hotel management has stated that they are conducted mostly (12) by both the Agency for halal quality certification and the hotel management joint and rarely (1) only by Agency for halal quality certification.

Halal tourist offering is mostly communicated through specialised promotional fairs, online and jointly with Croatian tourist board, the Agency for halal quality certification and Ministry of Tourism which emphasizes the fact this market represents the niche and should be approached through targeted communication (Table 6, a: fairs, b: internet, c: halalbooking.com, d: jointly with Croatian tourist board, the Agency for halal quality certification and Ministry of Tourism, e: hotels independently).

Picture 4: Promotion of halal tourist offer



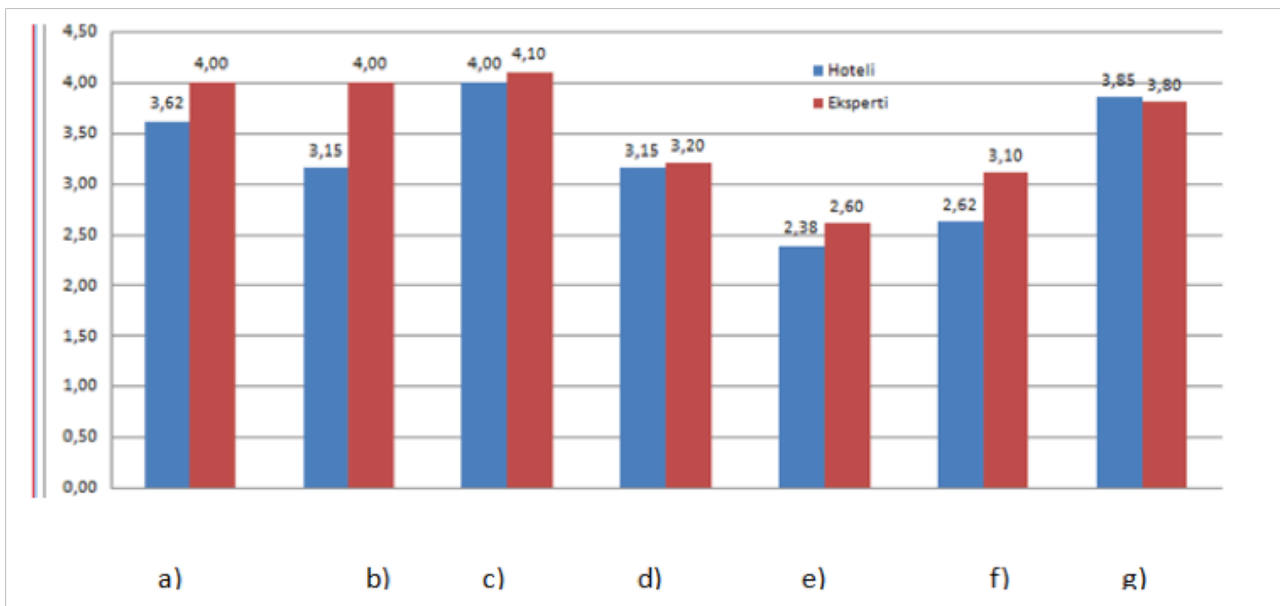
Finally on a scale of attitudes (1: strongly disagree, 5: strongly agree) on seven statements both hotels and experts have similar grades with statements being; a: potential of Croatia as a halal-friendly destination is high, b: hotel categorization of halal quality has resulted in increased sales of tourist offer, c: as a sales promotion strategy, Republic of Croatia needs to have a cluster of halal-friendly destination, d: halal certification quality is easy to get, e: halal certificate does not require high level of organizational efforts, f: acquisition of halal certificate is not expensive, g: investment in acquiring and keeping halal certificate pays off (Table 7).

It can be seen that both hotels and institutional experts view halal certification as a source for competitive advantage, although it requires investments especially in terms of organizational and financial structure.

Conclusion

The study has certain limitations arising from a small number of certified service providers. It should also be extended to reach as many certified stakeholders as possible. Also, future studies should focus their research on tourists as also another important stakeholders and Asses current accomplishments in positioning Croatia as halal-friendly destination.

Picture 5: Scale of attitudes on halal certification



Differentiation of the tourist offer of the Republic of Croatia and adaptation to the requirements of halal consumers facilitates the promotion of tourism in targeted markets. Taking into account the growth of the market of halal tourism and through determination that Croatia becomes a halal-friendly destination, significant added value can be achieved without which it would not be possible, because of the religious-motivated consumer behaviour, to adequately respond to their demands and preferences.

Understanding the logic of behaviour of Islamic tourists with an emphasis on meeting their specific needs, tourism management believes that it is possible, creating a cluster of halal tourism offer, and in cooperation with the relevant ministry, tourism associations, chambers etc. to attract more tourists on these target markets.

We believe that the competitive advantage in the global halal tourism market built on the competitive advantages of the overall tourist offer of Croatia, which, with increased and targeted promotional activity, gives good opportunity for profitable positioning strategy within the niche. Analysing the potential of halal tourism offer shows that the providers of halal services, primarily hotels and travel agencies, implement halal offer in accordance with the category A to its total offer adapted to specific customer requirements of halal services. In order to succeed in positioning and implementation of such strategy, adequate promotional activities together with constant halal offer extension should be considered.

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Management of Foreign Sales Subsidiaries - Contributions and Outlook from a Case Study on the German Mittelstand

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Abstract

This paper provides the contributions to knowledge derived from a case study focusing on “How to manage foreign subsidiaries in a multinational company (MNC) belonging to the German Mittelstand”. Existing MNC knowledge focuses mainly on large MNCs (e.g. Bartlett & Ghoshal, Prahalad & Doz) whereas contributions regarding an application to the German Mittelstand are scant. In particular, a framework for multinational management with patterns for foreign subsidiaries is missing for both academia and management. Thus, the findings of this case study contribute to existing MNC knowledge and provide ideas and guidance for managerial practice.

The main contribution of the case study is the framework for multinational management, which fills the gaps identified in existing knowledge. In particular, this case study contributes to knowledge by: (1) providing the key MNC factors for the German Mittelstand, (2 and 3) operationalizing the models for MNC typology and subsidiary roles for the German Mittelstand, (4) elaborating the patterns for foreign subsidiaries to improve their competences and to increase the market importance of their local market according to their subsidiary roles.

Further research may put emphasis on (1) the perspective of the subsidiary when applying this framework, (2) the influence and the distribution of power within the MNC, (3) the operational perspective, (4) cultural aspects, as well as (5) the opportunities with new IT solutions.

Key Words: *Multinational Companies (MNC), MNC Typologies, Subsidiary Roles, German Mittelstand, Case Study*

Literature Background, Research Aim and Case Study Method

A review of the literature identifies MNC typologies (Bartlett & Beamish, 2014; Bartlett & Ghoshal, 1988), subsidiary role models (Bartlett & Beamish, 2014; Bartlett & Ghoshal, 1986), and the corresponding MNC factors, which serve as a starting point. A conceptual framework is derived accordingly. First, a plausibility check with industry experts verifies and ensures the suitability of the identified MNC factors to the characteristics of the German *Mittelstand*. Then, an in-depth case study consisting of documentary, semi-structured interviews, and focus group interviews, applies the conceptual framework to the selected case of the German *Mittelstand*.

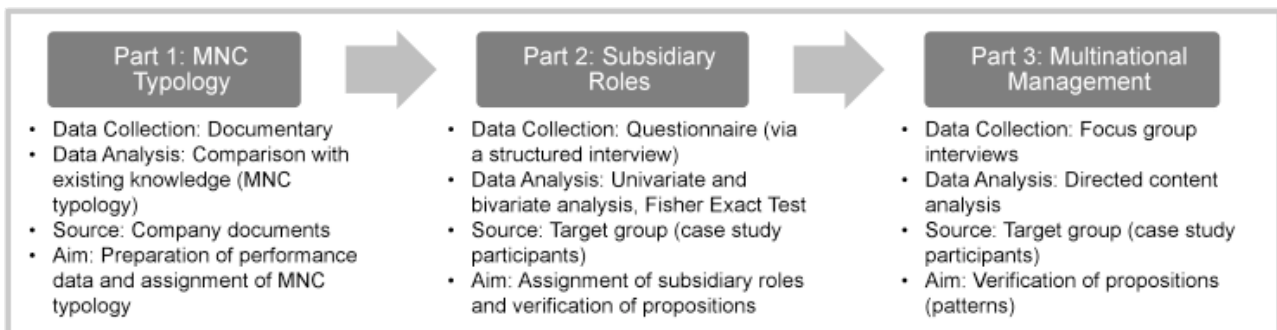
The aims of the described research are an operationalization and a modification of the selected MNC models in such a way that they suit the identified *Mittelstand* characteristics. This facilitates an application of the framework for multinational management consisting of the selected and operationalized content for foreign subsidiaries.

The overall research uses an in-depth case study to assign the MNC typology and the roles of the foreign subsidiaries in order to derive implications and patterns for multinational management. In particular, the in-depth case study consists of the following data collection and analysis:

- Documentary data to describe the MNC typology and the collected basic and performance data for the case
- Questionnaire data to assign the roles to the foreign subsidiaries of the case
- Focus group interview data to verify the appropriate implications for multinational sales management

The following illustration provides an overview to the described data collection methods, the corresponding analysis, as well the source and the aim of the three parts of the case.

Figure 1: Overview of Case Study



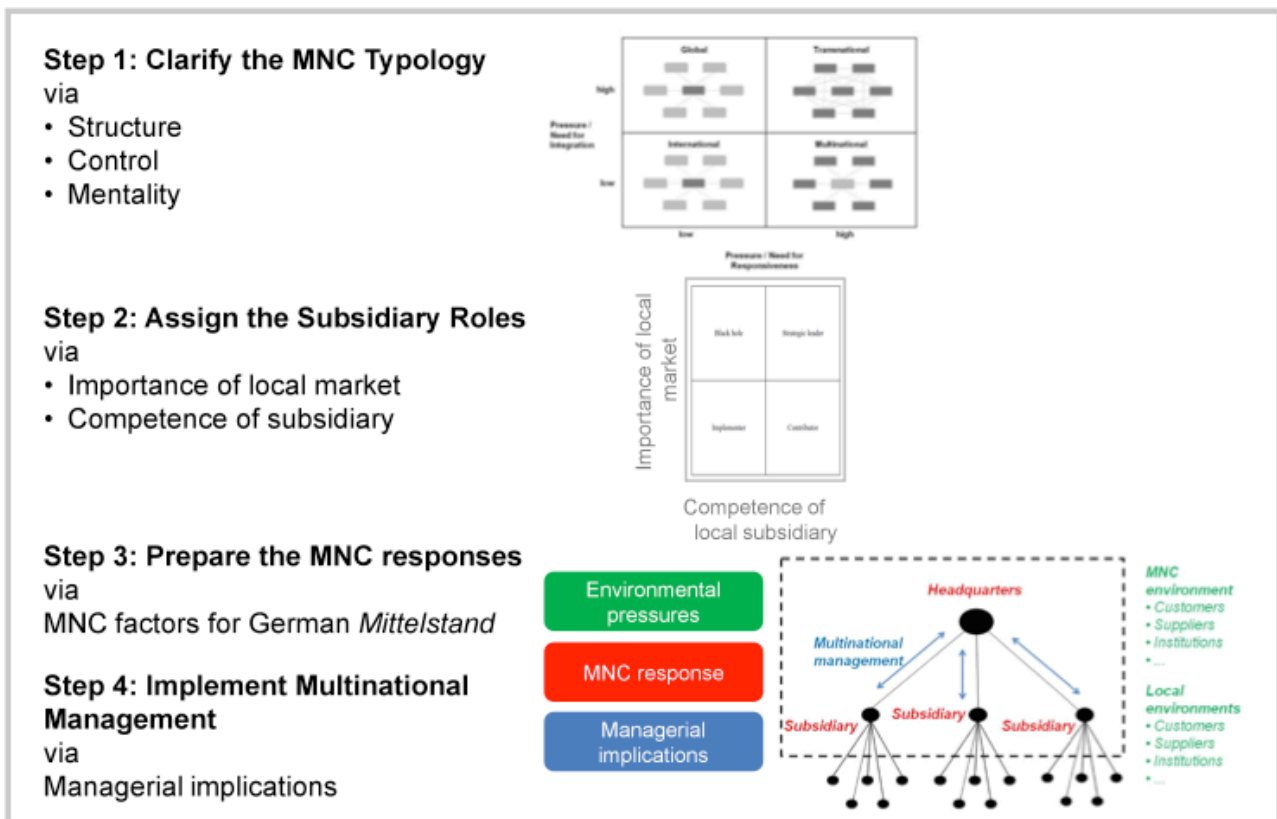
Introduction of the Framework

Bartlett and Ghoshal (Bartlett & Beamish, 2014; Bartlett & Ghoshal, 1986) suggest the following three steps for guiding the responsibilities and tasks within an MNC: (1) setting the course, (2) building differentiation, (3) directing the process. However, this only considers their subsidiary role model. Therefore, the author modifies this to the following four steps resulting from this literature review, which aims to assess the existing MNC knowledge and to select the required content for the underlying research study. This builds on:

- (1) Understanding the environmental pressures of the MNC with the existing structures, control mechanisms, and management mentalities **BASIS: MNC Typology**
- (2) Classifying the subsidiaries via the market importance and the subsidiary competence **WHERE: Subsidiary Role Model**
- (3) Structuring and preparing the most appropriate MNC responses for the derived subsidiary roles **WHAT: MNC Response**
- (4) Directing the process for managerial implications in order to implement these MNC responses within the local subsidiaries **HOW Managerial Implications**

These four steps are the foundation for the conceptual framework, which base on the literature review results.

Figure 2: Four Steps for Multinational Management



First, the MNC responses (1) resources, (2) operations, and (3) products have to be matched with the two dimensions of the selected subsidiary model (market importance and subsidiary competence). It is the MNC's aim to increase the importance of the local market and to improve the competence of a subsidiary. The subsidiary competence can be influenced by working on the local resources and the local operations, both from headquarters (Bartlett & Beamish, 2014; Nohria & Ghoshal, 1994) as well as by the subsidiary itself (Birkinshaw, 2000; Birkinshaw & Heywood, 2010). The market importance can only be influenced via the MNC response products, if at all. The MNC has to offer products, which are suitable for the respective local market by meeting both technical as well as commercial requirements, especially for *Mittelstand* companies seeking a clearly defined market niche (Gharpure, 2011; Simon, 2012).

Second, the managerial implications (1) centralization, (2) formalization, and (3) socialization have to be allocated to the subsidiary roles resulting from the market importance and the subsidiary competence (Bartlett & Beamish, 2014). For subsidiaries with a low competence (implementers and black holes), headquarters has to take over control to guide the local subsidiary with important decisions. The more important the market of a subsidiary is for the MNC (as it is the case for black holes and strategic leaders), the more headquarters needs to participate in the local decision-making. Whereas strategic leaders only have to be accompanied, black holes need substantial assistance. A certain degree of formalization (rules and guidelines) is required for all subsidiaries (Nohria & Ghoshal, 1994, 1997). However, the more important a local market is, especially if global customers are served locally, the more formalization is necessary. Socialization is an important element for all subsidiaries as a common culture and common values are crucial for an MNC (Birkinshaw & Morrison, 1995),

especially for the German *Mittelstand* (Simon, 2012). Thus, frequent visits are required both from headquarters to subsidiary and vice versa, which also shapes the competence of the subsidiary and the understanding of the market from a headquarters perspective (Hausmann, Holtbrügge, Rygl, & Schillo, 2006).

Consequently, the following implications for multinational management are stated for the subsidiary roles:

- Implementers: Management should focus on resources and operations via centralization and socialization. The more important direction is from headquarters to subsidiary.
- Contributors: Management should focus on strategy and products via formalization and socialization. The implication is to conduct socialization in a mutual exchange.
- Black Holes: Headquarters' management has to focus on resources and operations via centralization and socialization. The low competence of the subsidiaries implies a one-way direction from headquarters to subsidiary.
- Strategic leaders: Headquarters and subsidiary management have to focus jointly on strategy and products via formalization and socialization. This ensures that both the directions from headquarters and the strategic leader match.

Contributions

This in-depth case study modifies and extends existing MNC knowledge to the population of the German *Mittelstand*. In particular, (1) the MNC typology and (2) the subsidiary roles can be applied via (3) the MNC factors in order to facilitate (4) multinational sales management of foreign subsidiaries.

First, a company of the German *Mittelstand*, which suits the defined population, follows the international typology by Bartlett and Ghoshal (Bartlett & Beamish, 2014; Bartlett & Ghoshal, 1988). However, this case study has identified the following modifications for the initial "international MNC typology". For some sales subsidiaries, there are aspects of a multinational typology visible, which is based on a good personal relationship and trust between headquarters and subsidiaries. Moreover, international and global interrelations (Ohmae, 2007) require a closer cooperation within the MNC. This applies to relationships both between headquarter and subsidiaries and among the subsidiaries, as suggested by the transnational typology (Bartlett & Ghoshal, 1988). However, the case investigated in this case study neglects the appropriateness of a purely transnational approach. Instead, the case study suggests a "reversed international approach" for a certain category of the MNC response such as for "products", as they may be developed for a foreign market and then be marketed both in the home market and the remaining foreign markets as well (in contrast to the initial characteristics of an international typology by Bartlett, Ghoshal, & Beamish, 2008). In summary, it does not make sense according to the author's point of view to choose the "one" typology, but rather to choose a basic one and then select those parts of the remaining typologies which are important for certain aspects.

Second, the existing subsidiary role model (Bartlett & Ghoshal, 1986) is modified via the stated MNC factors according to the requirements of the German *Mittelstand*. Thus, the model is applied to the selected case "Mittelstand GmbH" by using the defined questionnaire and the described analysis in order to create a description of a subsidiary portfolio and their local markets. The facilitation of this application is a contribution, as

the basic dimensions “market importance” and “subsidiary competence” are not refined in the initial model. In addition, the performance data (revenue and market performance) collected in the case “Mittelstand GmbH” are influenced by the special characteristics of the German Mittelstand (Meyer & Vernohr, 2007; Orton-Jones, 2013; Simon, 1992). Regarding the selected subsidiaries of the case, the confrontation of subsidiary role data and performance data has shown that there is no association between market performance and the competence of a local subsidiary. However, an association can be observed for the data of the selected case between the market performance data and the importance of the respective market resulting from the subsidiary role data.

Third, the MNC dimensions for multinational sales management (1) environmental pressures, (2) MNC response, and (3) multinational sales management (as suggested by Nohria & Ghoshal, 1994) are confirmed by the interviews with the selected industry experts. In addition, the corresponding MNC categories and MNC factors are modified and confirmed according to the Mittelstand requirements applicable to the population of this case study. In particular, the categories for the environmental pressures (1.1) market and industry characteristics and (1.2) market and customer needs must be assigned to the MNC typology. Moreover, the categories of MNC response (2.1) strategy, (2.2) products, (2.3) resources, and (2.4) operations serve as fields of action for the foreign subsidiaries after they have been classified. Finally, the categories of multinational sales management (3.1) centralization, (3.2) formalization, and (3.3) socialization provide the managerial implications for the foreign subsidiaries. In summary, a complete overview of MNC factors for the three MNC dimensions is derived. These results serve as a basis for the previously mentioned applications of MNC typology and subsidiary role model.

Fourth and most importantly, this research provides a framework for multinational sales management for the four subsidiary roles initiated by Bartlett and Ghoshal (1986). The case study suggests advice for an appropriate MNC response (strategy, products, resources, and operations) and the corresponding implications for multinational sales management of the four roles (1) implementer, (2) contributor, (3) black holes, and (4) strategic leaders. This advice is presented in form of patterns (as suggested by Yin, 2011; Yin, 2014) for the mentioned subsidiary roles from Bartlett and Ghoshal (1986) resulting from this case study. These patterns contribute to existing knowledge on how to manage foreign subsidiaries, especially when seeking a balance between global directive and local freedom (as mentioned by Bartlett, et al., 2008; Prahalad & Doz, 1987). Table 1 shows the selections, claims, and propositions in order to link them to the overall contributions to knowledge.

Outlook – knowledge perspective

When taking the knowledge perspective, further research could also tackle the objective of this case study by taking the viewpoint of a local subsidiary into account. As this case study focuses on the headquarters perspective, in particular on how a foreign subsidiary can be managed, one continuation would be to conduct research on how this is received by the foreign subsidiaries and their local management. In particular, perception gaps between headquarters and local subsidiaries (Birkinshaw, Holm, Thilenius, & Arvidsson, 2000) could be an interesting perspective to increase the effectiveness of multinational sales management.

Table 1: Contributions to Knowledge

	Contribution to Knowledge	Relation to Existing Knowledge	Link to Research Gap
OVERALL RESEARCH STUDY	<ul style="list-style-type: none"> • Knowledge: final conceptual framework • Methodology: In-depth case study for a <i>Mittelstand</i> company 	<ul style="list-style-type: none"> • See details mentioned below 	<ul style="list-style-type: none"> • Research design / population • In-depth single case study versus multiple case study using quantitative data • <i>Mittelstand</i> versus big MNC
MNC Typology BASIS RQ1	<ul style="list-style-type: none"> • Operationalization of model for the German <i>Mittelstand</i> 	<ul style="list-style-type: none"> • MNC typology by Bartlett and Ghoshal (1988, 2014) with IR-grid by Prahalad and Doz (1981, 1991) 	<ul style="list-style-type: none"> • Micro-view versus macro-view perspective
Subsidiary Role WHERE RQ2	<ul style="list-style-type: none"> • Operationalization of model for the German <i>Mittelstand</i> 	<ul style="list-style-type: none"> • Subsidiary role by Bartlett and Ghoshal (1986, 2014) 	<ul style="list-style-type: none"> • Micro-view versus macro-view perspective
MNC Factors for German <i>Mittelstand</i> WHAT RQ3	<ul style="list-style-type: none"> • Verification of MNC factors according to the characteristics of the German <i>Mittelstand</i> • Allocation and relation of the MNC factors to the selected models 	<ul style="list-style-type: none"> • MNC factors with structure by Nohria and Ghoshal (1994, 1997) 	<ul style="list-style-type: none"> • Consideration of the German <i>Mittelstand</i> and its unique characteristics versus large MNCs only
Multinational Management HOW RQ4	<ul style="list-style-type: none"> • Conceptualization of models for managing foreign subsidiaries • Identification of patterns for the subsidiary roles available 	<ul style="list-style-type: none"> • MNC dimensions with modified MNC factors verified by plausibility check 	<ul style="list-style-type: none"> - Balancing global directive and local responsiveness / adaption - Providing patterns for the four subsidiary roles

In addition, the distribution and influence of power between headquarters and subsidiaries (Doerrenbacher & Geppert, 2011), the attention of subsidiaries (see Bouquet & Birkinshaw, 2008; Bouquet, Morrison, & Birkinshaw, 2009) and from headquarters (Ambos & Birkinshaw, 2010) could be looked at in a detailed way. If staying with the headquarters' viewpoint, other subsidiary models as well as further concepts and research fields, such as parenting (see Campbell, Goold, & Alexander, 1995; Goold & Campbell, 2002) could help to identify further possibilities to manage foreign subsidiaries.

Further research could concentrate on the detailed operational topics in multinational sales management like the processes and activities in sales, marketing, and business development (as outlined by Adamson, Dixon, & Toman, 2013; Panagopoulos et al., 2011). In addition, the necessary systems like for customer-relationship-management (CRM) or the enterprise-resource-planning (ERP) for general operations and their usage in the international sales organization of an MNC of the German *Mittelstand* could be subject for further research. The same dichotomy of allowing local freedom versus fostering global integration should be present (and possibly even more relevant) when taking a detailed look on the systems and the operations within multinational sales management (see also Cullen & Parboteeah, 2013, p. 19 - "The Internet and Information Technology are making it all easier").

Although the research field "culture" is deliberately limited in this case study, it is an important issue in multinational sales management. Due to this, further research could reflect the differences in culture of foreign subsidiaries regarding the framework for multinational sales management derived in this case study. In particular, the classification from Hofstede (as introduced in Hofstede, 1983) could serve as a basis for extending and possibly modifying the research results including the derived framework (see also Qin, Ramburuth, & Yue, 2011; Schneider & Barsoux, 2008 for further ideas).

When considering the transnational typology (as suggested by Bartlett & Beamish, 2014; Bartlett & Ghoshal, 1988), modern information technologies and communication patterns could be reflected for both the internal cooperation as well as for the external communication. This might lead to completely new perspectives for multinational sales management (especially when comparing this with existing knowledge models considering information flows like the one introduced by Gupta & Govindarajan, 1991). This might become even more relevant when considering that the internationalization and the transparency within these global customers increases further as expressed by Ohmae (2007) by announcing a “borderless world”.

Outlook – methodological perspective

When taking the methodological perspective, the consequence of this case study of only providing a possible transferability and not generalizability or external validity is one starting point for further research. The following ideas and suggestions provide a possible basis for discussion to achieve this. The number of cases as well as their participants could be increased. Thus, a multiple case study could focus on a very specific finding from this case study. This could be applying the MNC typology and/or subsidiary role model in the described way or focussing on the MNC responses or managerial implications. Likewise, by employing an increased number of participants and subsidiaries in a single case study, further research could confirm the findings of this study and/or contribute new findings besides the existing ones.

In addition, future research can specify the population in a more detailed way in order to contribute knowledge about the characteristics of the German Mittelstand. Research studies building on this one could set a special focus on a certain industry of Mittelstand companies in order to even further narrow the Mittelstand characteristics derived in this case study. Comparatively, the size of the company and some special characteristics (like privately owned and privately managed Mittelstand companies) would define the population in an even more accurate way than it has been done here. Conversely, as one major contribution of this case study is an operationalization of the selected models for MNC typology and subsidiary roles for the German Mittelstand, future research could verify the operationalization and assess an application within big MNCs as well.

In general, research on the German Mittelstand has grown in importance in the last decade, which can be seen in various institutions focusing on it like (1) the “Institut für Mittelstandsforschung, Bonn”, (2) the “Institut für Mittelstandsforschung, University of Mannheim”, or (3) the “Kompetenzzentrum für Innovation und Mittelstandsforschung, Berlin” – to only name a few. Therefore, research combining knowledge from research fields like “Multinational Companies” with the characteristics of the German Mittelstand will gain importance, from both the perspective of theory and the perspective of practical management in the author’s point of view.

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Forecasting Alcohol Consumption in Europe

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Abstract

This article is focused on forecasting the developments in alcohol consumption in Europe. The results are based on the current alcohol consumption per capita in Europe. The analysis of alcohol consumption should consider the product characteristics as well as the consequences of its excessive consumption. The predictive methodology makes use of the Box-Jenkins method, which is a prerequisite to successfully identify a time series model, a parameter estimation model, the appropriate transformation of time series, determining the order of differentiation and subsequent verification of the model and also the ARIMA model, taking into account the autocorrelation and partial autocorrelation process. The chosen methodology for predictions of alcohol consumption is a prerequisite for possible proposals of measures to regulate alcohol consumption in Europe. The forecast of the development of consumption is performed on the forthcoming 10 years due to the length of the process to determine and implement alcohol consumption regulation measures.

Key Words: alcohol consumption, pure alcohol, trend forecast prediction, the ARIMA model

Notes: This paper is a revised and expanded version of a paper entitled Forecasting Alcohol Consumption in Europe presented at The 13th International CIRCLE Conference, Naples, 30th March - 1st April, 2016.

Introduction

Alcohol has been a feature of human society at least since the Neolithic age. Typically, any available raw materials were used to make it. Alcohol has been lauded and despised for reasons that have remained almost unchanged over time (OECD, 2015). Alcoholic beverages often served as a medication, and this practice prevailed until the beginning of the twentieth century and the advent of modern medicine. Alcohol has been subject to legal constraints since ancient times. Mostly, however, legal restrictions focused not so much on the protection of public health but were aimed more at ensuring public order or regulating the market. More pronounced changes occurred at the height of the Middle Ages, and particularly so from the onset of modern times, especially because of progress and development that brought not only industrialization but revealed how to distil ever stronger spirits. Currently, alcohol in Europe has a wide range of uses and significance, from dining habits to its role in communion rites. (Anderson, Baumberg, 2006).

Excessive alcohol consumption causes damage not only to human health, but also to the social fabric (Anderson and Baumberg, 2006). Studies show that consumption of alcoholic beverages is the third highest cause of death and disease in the EU, after tobacco and

high blood pressure. More than 1 in 4 deaths among young men (aged 15-29) and 1 in 10 deaths among young women (aged 15-29) in the EU in 2006 were caused by alcohol (European Commission, 2006). Alcohol, according to the OECD (2015), has influence on over 200 diseases and types of injury. However, there is also research (Pearson, 1997; Eagles, Martin, 1998 in Csémy, Sovinová, 2003; Doll, 1998 in Csémy, Sovinová, 2003) to show that alcohol consumption in moderate amounts has positive effects on human health. In the vast majority of countries around the world the harmful effects of alcohol consumption on population health are prevalent (OECD, 2015).

Harmful drinking is in most cases the result of individual choice, but has an impact on society as a whole. The most obvious social consequence of excessive alcohol consumption is harm done to third parties, including traffic accidents, violence and murder, divorce rate, as well as the number of children born with disorders caused by alcohol consumption during pregnancy. Other important aspects are the costs of health care and crime, as well as the loss of productivity. These provide Governments with a strong logical argument to adopt measures preventing the excessive consumption of alcohol. Generally, the higher the level of consumption, the more severe the impacts on health and criminal activity (OECD, 2015; Anderson, Baumberg, 2006). The World Health Organization has issued guidance material where it has broken down the cost of alcohol by causes, into direct costs, being for addictive substances any costs incurred for a purpose other than the provision of the substances themselves; and indirect costs, which represent the loss of productivity of the users of these substances as a result of morbidity and mortality; and where appropriate, intangible costs, which express for example pain, etc. Direct costs are further divided into the costs of health care, law enforcement and others (prevention, research, etc.) (Zábranský et al., 2007).

The most common policy measures used to control and limit the consumption of alcohol in the individual countries are random breath tests, duties, control of sales and advertising restrictions (Bennett, 2003 in OECD, 2012; WHO Europe, 2012a in OECD, 2012; Anderson, Baumberg, 2006). In addition to the legislative measures, other factors have an effect on alcohol consumption. Among the most important are personal characteristics (age, gender, education, marital status, religion, masculinity, income, etc.); family (family relationships, family structure, family conflicts, parental supervision, etc.); peers (peer pressure, peer alcohol consumption); life experience (death of a loved one, disability, unemployment, problems at school, experience with alcohol from the past, etc.); moral values; socio-cultural factors; legal provisions in the field of alcoholic beverages; structural factors (price availability, packaging size); the specific situation; marketing, advertising, media; and climate (Pettigrew and Donovan, 2003).

Although the news media constantly provide worrisome news about the consumption of alcohol and drunkenness, which may give the impression that the health and social problems associated with excessive alcohol consumption are ever-growing, in fact the average consumption in most OECD countries over the last two decades has not changed very much (OECD, 2015). In the EU the average consumption in 2013 was around 11 litres of pure alcohol per person (15+) annually. Compared with 1983, such consumption was even some 1.4 litres lower (WHO, 2015). But despite this fact, the European Union is the region with the highest alcohol consumption in the world (Møller, Anderson in WHO, 2015). Nevertheless, average consumption gives an incomplete picture of the trends and patterns of consumption. Although the average consumption in most countries is either steady or declining, in some groups of the population, such as young

people and women, excessive consumption is on the contrary increasing, which is where the policies alcohol consumption reducing policies ought to focus (OECD, 2015).

The aim of this paper is to deploy the most appropriate methods for forecasting the consumption of alcoholic beverages, because it is important that trends be captured as best they can and for the measures taken on the basis of these forecasts to be as effective as possible. The prediction of alcohol consumption values has to use such methods of time series analysis that are grounded in a theoretical basis for assessing the presence of any trend, periodicity or stationarity within the time series. Due to the large quantity of random effects that impact alcohol consumption, it appears that the Box-Jenkins methodology of models that are cognisant of autocorrelation and partial autocorrelation is a prerequisite for any suitable forecasting model.

Methodology

The source data are drawn from the WHO-Global Health Observatory Data Repository database and refer to total alcohol consumption (without further breakdown by type).

The consumption of pure alcohol per person (15+) in this database is defined as the amount of alcohol consumed in litres of pure alcohol per capita (15+) per calendar year in the country. The quantity of alcohol consumed is obtained as the sum of the individual types of alcoholic drinks consumed (beer, wine, spirits and other alcoholic drinks). The metric takes into account only consumption that is recorded from production, import, export, and sales data obtained via taxation. Factors such as inventory making, waste, spills, as well as cross-border purchases, tax-exempted alcohol, the existence of the black market, as well as differences in the strength of alcohol are not included in the calculation. This can have some influence on the accuracy of the consumption recorded. The primary source of the data obtained are Government statistics. Other sources are the publicly available statistics on alcohol, specific to each particular country (Canadean, WSR – International Wine and Spirit Research, OIV-International Organisation of Vine and Wine, Wine Institute, historically World Drink Trends) and statistical databases, the Food and Agriculture Organization of the United Nations' statistical database (FAOSTAT) (WHO, 2015).

For converting the various alcoholic beverages into litres of pure alcohol, the database uses the following alcohol content: beer (5% alcohol); wine (wine from grapes 12%, grape must 9% and vermouth 16% pure alcohol); spirits (distilled 40%, other spirits 30% pure alcohol); and other alcoholic beverages (beer from sorghum, millet or corn, cider 5%, fortified wine 17% and 18%, beverages from fermented wheat and fermented rice 9% other fermented beverages 9%) (WHO, 2015). The reference monitoring period the consumption of alcohol is from 1980 to the year 2011 since the database of alcohol consumption for each country for the following years is not complete.

The creation of forecasts is one of the basic aims of univariate analysis of economic time series. Out of a range of models for determining the predicted values the ARIMA model was chosen. Identification of the model in the analysis of time series is one of its most important phases. After identifying the model comes estimating the model parameters, selecting the appropriate time series transform, determining the order of differentiation and after that, verification of the model.

Assuming the model:

$$\phi p B \Delta d X_t = \theta q B a_t$$

Where: $\Delta d = (1-B)d$, i.e. the ARIMA model (p,d,q) the task is to predict future values X_{T+h} . T is called the threshold of prediction and h is known as the horizon of prediction. A linear process over time $(T+h)$ can be written under the ceteris paribus principle as:

$$X_{T+h} = a_{T+h} + \psi_1 a_{T+h-1} + \dots + \psi_{h-1} a_{T+1} + \psi_h a_T + \psi_{h+1} a_{T-1} + \dots = \psi B a_{T+h}$$

Where: $\psi B = \phi p B^{-1} \Delta - d \theta q(B)$. The forecast value X_{T+h} for $h \geq 1$ is construed at time T .

The forecast prediction with minimum square error can be written in the form:

$$X_{T+h} = \psi_h * a_{T+h} + \psi_{h+1} * a_{T+h-1} + \psi_{h+2} * a_{T+h-2} + \dots$$

The Mean Square Error of the prediction is:

$$MSE X_t(h) = E(X_{T+h} - X_t(h))^2.$$

For a normal stochastic process the $(1 - \alpha)100\%$ prediction interval is delimited by borders:

$$X_{T+h} \pm \mu_{1-\alpha/2} = 0_{h-1} \psi_j \pm 1/2 \sigma a$$

Where: $\mu_{1-\alpha/2}$ is the $100(1-\alpha/2)\%$ quantile of the standard normal distribution. For static processes this means that the confidence interval asymptotically approaches the two horizontally parallel lines (Artl, Artlová, 2007).

In the ARIMA model, with the right differentiation we can stationarize, forming a static time series. To verify the ARIMA model, you can make use of the following tests:

- To test the statistical significance of the model used, we apply the F-test, to verify the significance of parameters in the model we use the t-test. always with the defined significance level for deciding whether to accept or reject the null hypothesis H_0 .
- The “White noise” test is defined as a random component meeting three prerequisites:
 - Null expected value

- Constant variance (variability of the random component does not depend on the values of the systematic components or other factors.)
- Serial independence (the incidental component values are uncorrelatable by any shift.)
- The “Reside normality” test whereby the normal distribution of the error component is validated by the Chi-square test.
- To verify normality we can also use the Shapiro-Wilk test with similar hypotheses.
- When testing for heteroscedasticity, i.e. the inconstant variability of residual values, we can use the White test, the Park test or Engle’s ARCH test. H0: homoscedasticity of the error component.
- To test for serial correlation of the error component in the first and higher order, the Ljung-Box test is used. H0: autocorrelation (serial correlation) in the first or higher order does not occur (Adamec et al., 2013).

Findings

In the EU countries is the use and overuse of alcohol given to very different attention from systematic and conceptual alcohol policy to very arbitrary and haphazard measures. The World Health Organization (WHO) and the European Commission (EC) have taken care to collect data on alcohol consumption.

The empirical values of mean EU annual alcohol consumption per capita converted to 100% alcohol (in litres) – according to the WHO-Global Health Observatory Data Repository are shown in Fig. 1.

Figure 1 Mean EU annual alcohol consumption per capita in litres of pure alcohol



Source: WHO - Global Health Observatory Data Repository, 2015

From the course of alcohol consumption in the years monitored we see a significant drop in alcohol consumption since the beginning of the reference period - the year 1980 – until the year 2000. In the years 2000 to 2011 we observe stagnation or a slight increase but with greater variability in consumption between years during this period.

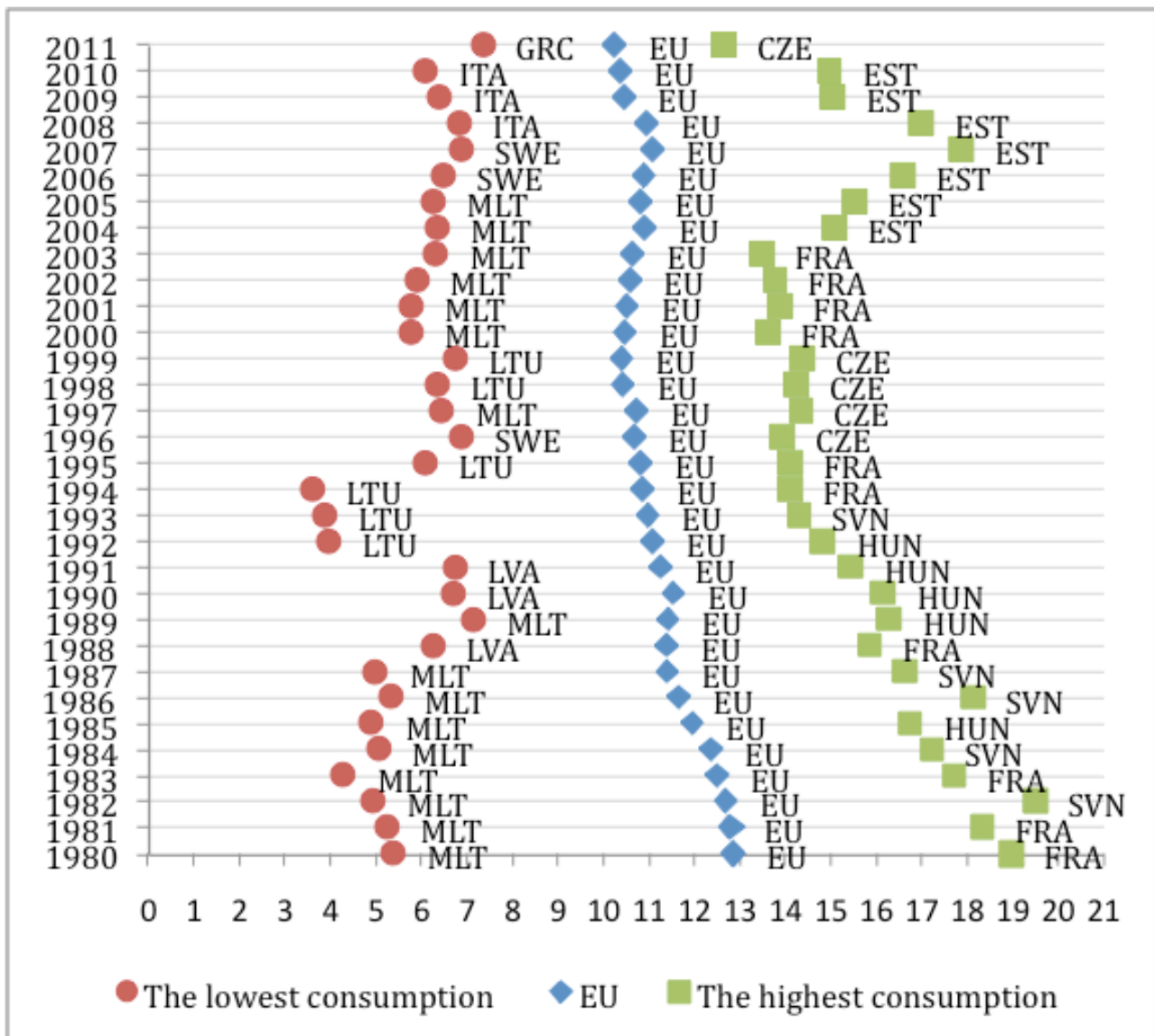
Given the length of the time series and the change of trend or stagnation in alcohol consumption in 2000, the basic characteristics of the time series (Tab. 1) were set, not only for the entire length of the time series i.e. the years 1980-2011 but also for time series until the year the trend changed i.e. 1980-2000 and 2000-2011. In the years 1980-2000 alcohol consumption decreased by 2.37 litres per person, in the years 2000-2011 the decline is only 0.22 litres of alcohol per person.

Table 1 Basic time series characteristics

Years	1980-2011	1980-2000	2000-2011
Absolute increase	-2.5900	-2.3671	-0.2229
Mean absolute increase	-0.0835	-0.1184	-0.0203
Coefficient (pace) of growth	0.7984	0.8157	0.9787
Mean coefficient of growth	0.9928	0.9899	0.9980

The consumption of alcohol in the individual countries is shown to some extent in Fig. 2. This covers the annual EU average alcohol consumption per capita in the years 1980-2011 highlighting the countries that in the given year attained extremely low and extremely high consumption. While in the final twenty years of the last century the lowest alcohol consumption per person was in countries like Malta and Latvia and Lithuania, the highest consumption was in countries like France, Hungary, and the Czech Republic. After the year 2000 there is an interesting change, the highest consumption being in Estonia but also in Lithuania, the Czech Republic and France, the lowest consumption remaining in Malta, and in the advanced countries of Europe like Finland, Sweden, and Italy. Consumption is expressed only up to 2011 due to the lack of data for certain countries in subsequent years.

Figure 2 Alcohol consumption extremes in EU countries, 1980-2011

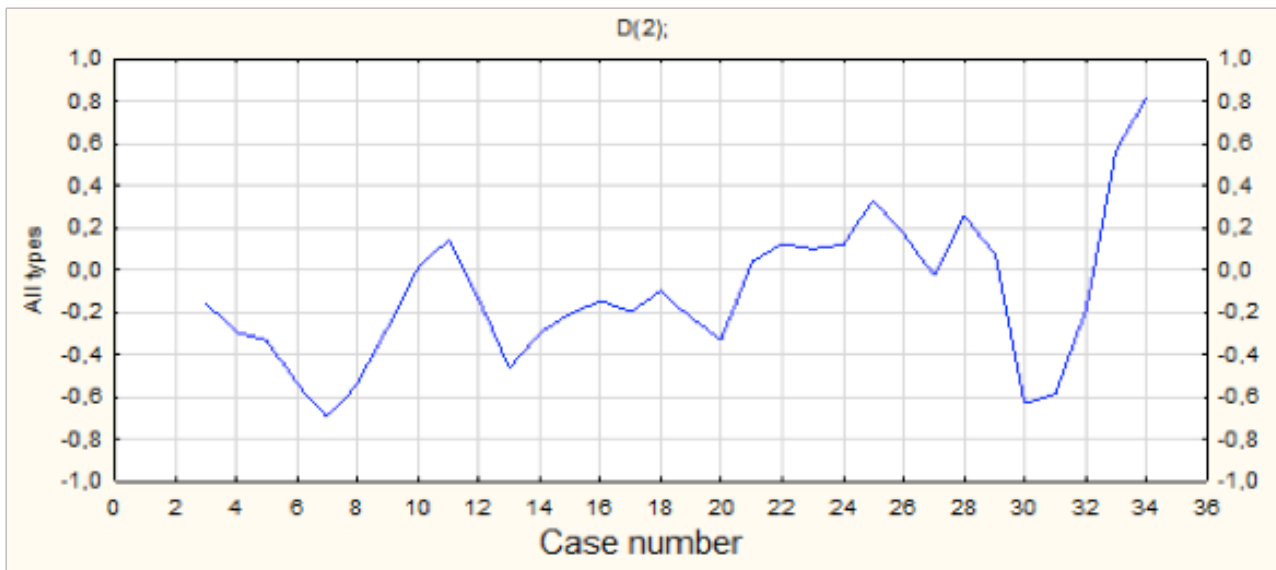


Source: WHO - Global Health Observatory Data Repository, 2015

Making predictions of alcohol consumption using the ARIMA model rests on completing the process of time series stationarization, estimating the autocorrelation and partial autocorrelation function of the parameters of the model and their validation, analysing the residue and forming the forecast.

A depiction of the time series after transformation (differentiation), leading up to stationarization of the time series:

Figure 3 Times series after transform (differentiation)



The time variable value shows the progression having become static.

To select the parameters of the model, we need to construct the autocorrelation and partial autocorrelation function:

Figure 4 Autocorrelation function

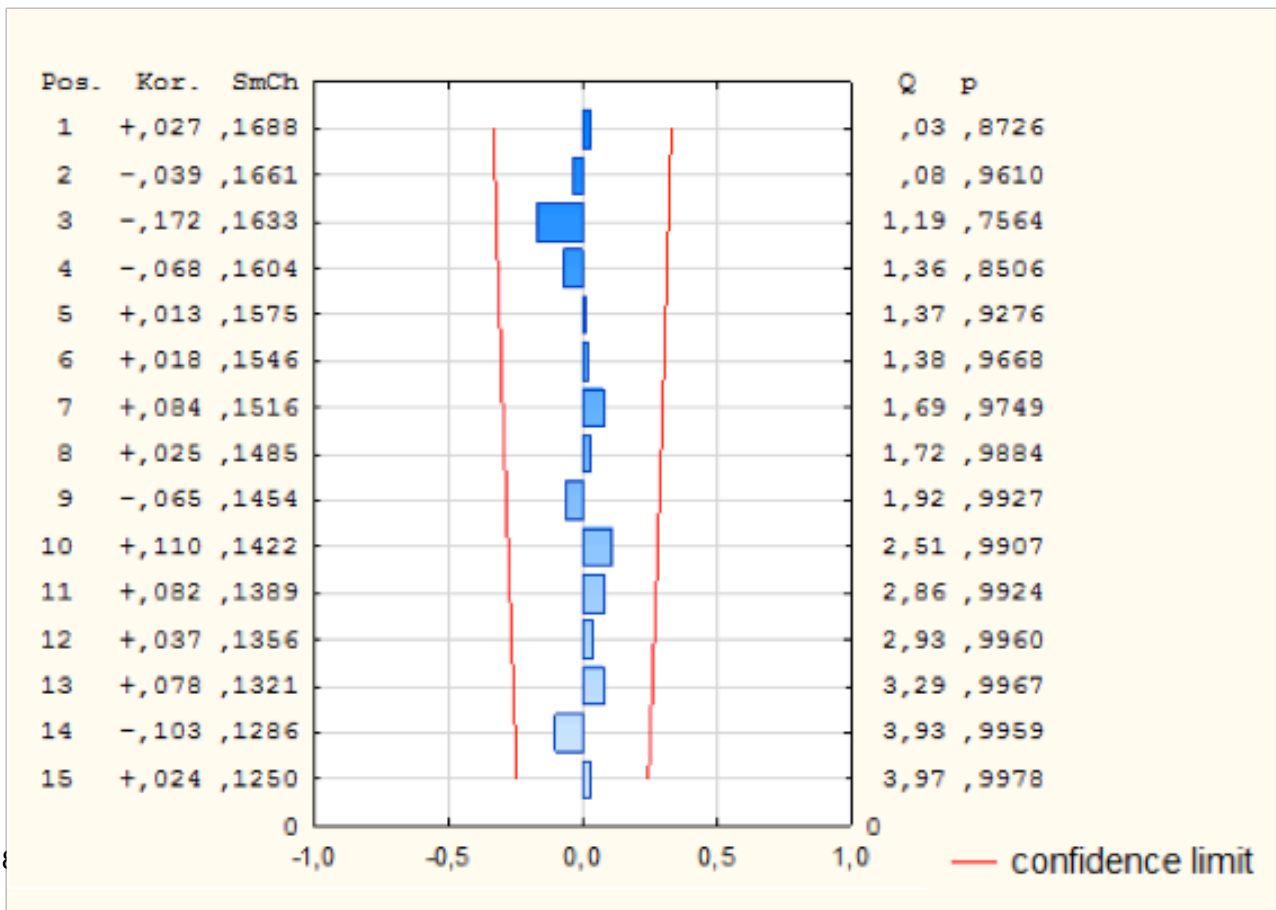
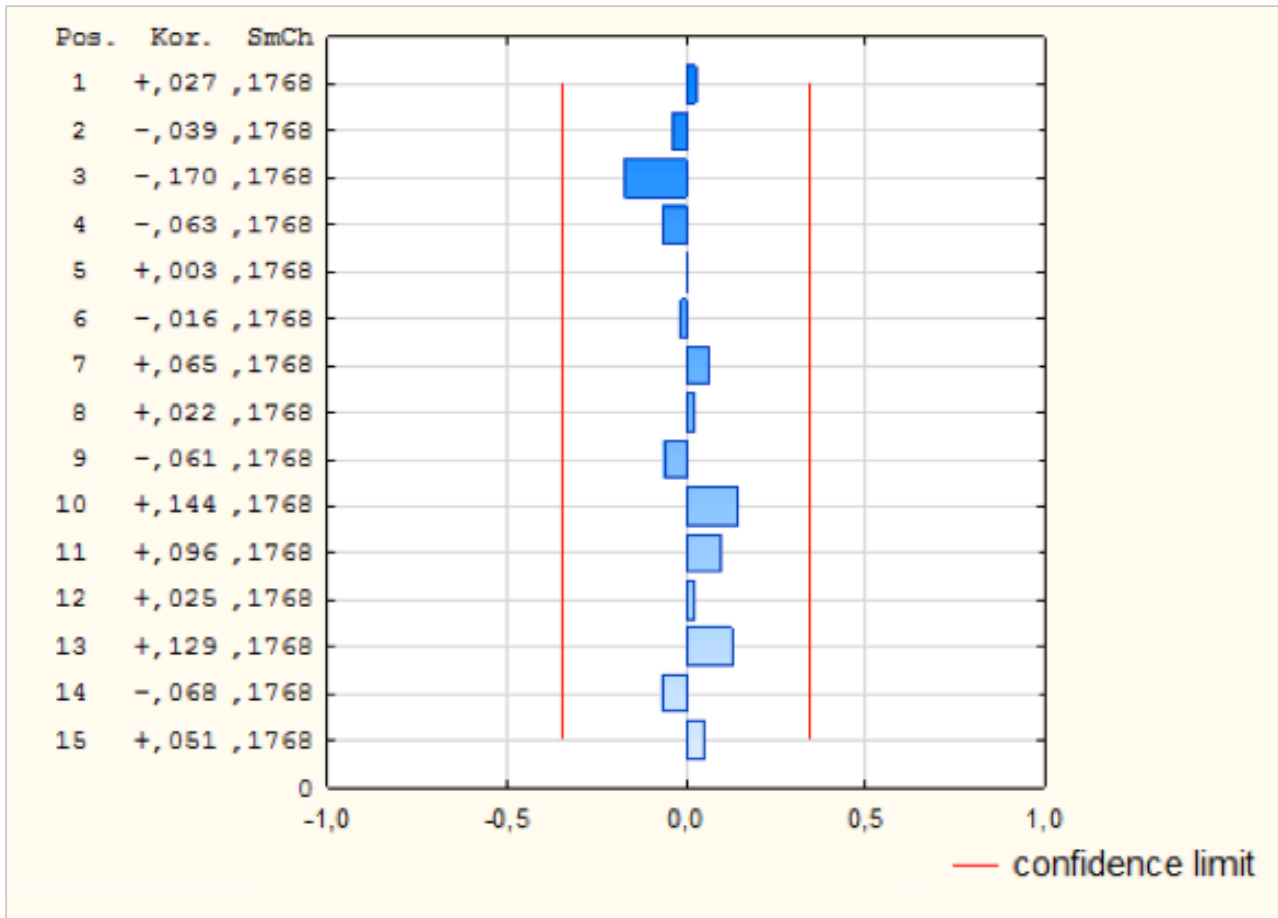


Figure 5 Partial autocorrelation function

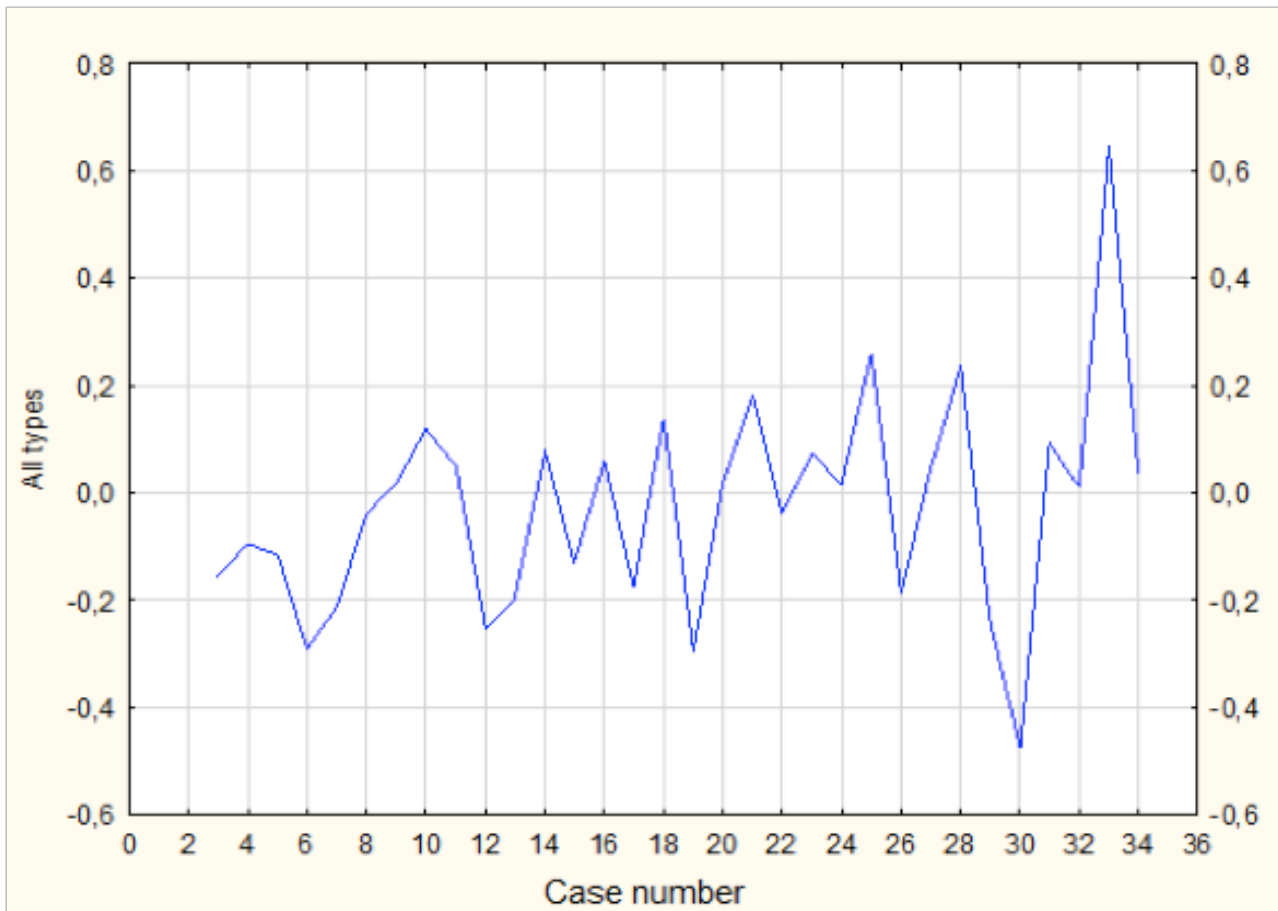


On the basis of the properties of the above functions we opt for 1 as the order of autocorrelation and for 1 as the order of moving totals.

Table 2 The ARIMA model

	Input: All types					
	Transform: D(2)					
	Model: (1,1,1) PC Resid. = .04586					
Param.	Param.	Asympt. Std Err	Asympt. t (30)	p	Lower 95% level	Upper 95% level
p(1)	0.471356	0.211795	2.22553	0.033709	0.03881	0.903899
q(1)	-0.796119	0.177844	-4.47650	0.000102	-1.15933	-0.432913

Since the coefficients are both statistically significant (p-values are below the 0.05 significance threshold) the overall model is itself statistically significant.

Figure 6 Residues

Residual values are around zero, so the assumption is met that the random element mean is zero (white noise).

Residue analysis:

Test of normality (Shapiro-Wilk):

Residues: SW-W = 0.9639; $p = 0.3498$

The results of the test show that residues have a normal distribution. This can be seen on the normal-probability chart below.

Figure 7 Assessment of normality by the normal-probability chart

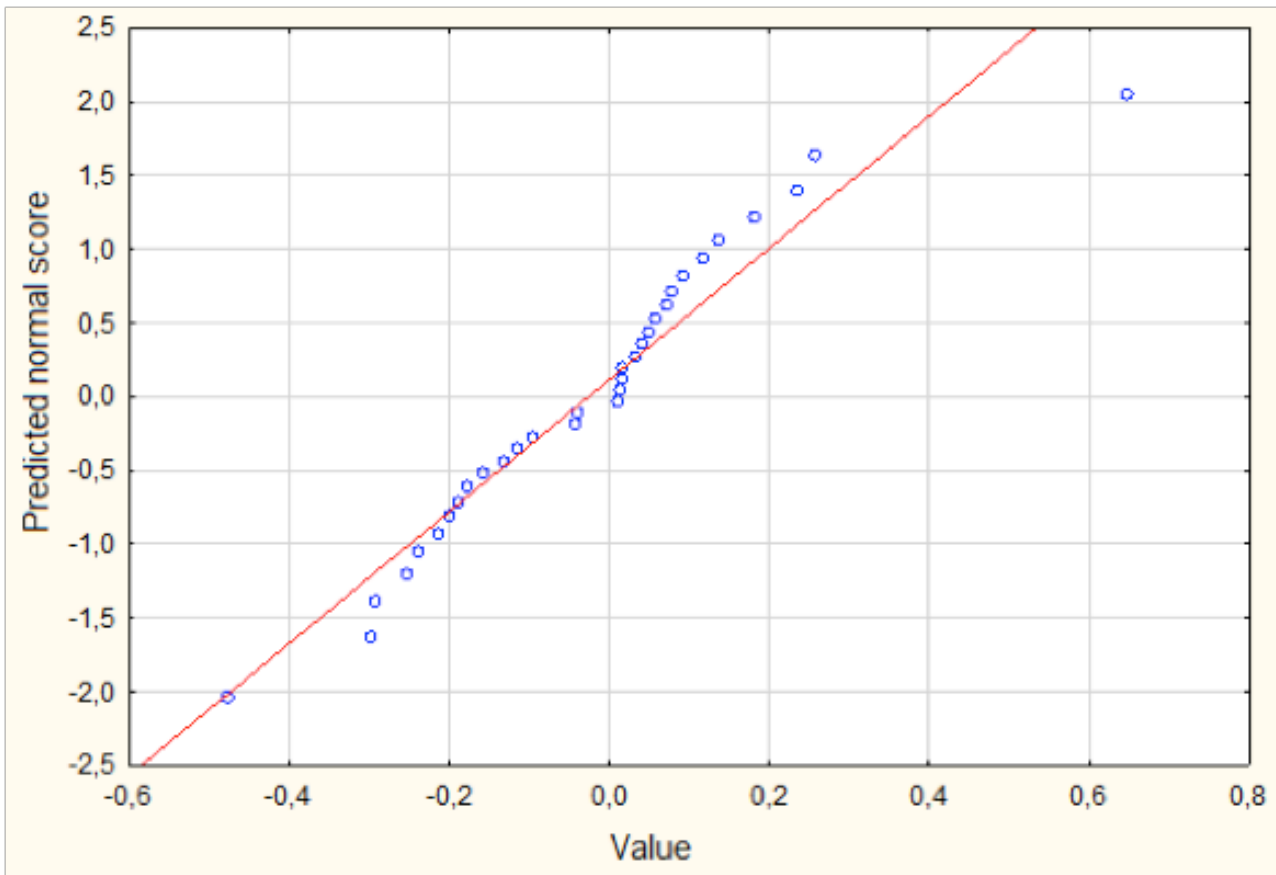


Table 3 Absence of the Box-Ljung Q-test series correlation

Shift	Autocorrelation function All types: ARIMA (1,1,1) residues (Standard errors are the estimates of white noise)			
	Autocorrel.	Std. Err.	Box&Ljung	p
1	0.027062	0.168798	0.025702	0.872631
2	-0.038551	0.166053	0.079602	0.960981
3	-0.171707	0.163262	1.185734	0.756429
4	-0.067562	0.160422	1.363102	0.850580
5	0.013139	0.157532	1.370059	0.927557
6	0.018148	0.154587	1.383841	0.966831
7	0.084146	0.151585	1.691985	0.974906
8	0.024739	0.148522	1.719731	0.988429
9	-0.064606	0.145395	1.917174	0.992708
10	0.109727	0.142199	2.512603	0.990688
11	0.082078	0.138930	2.861636	0.992428
12	0.036707	0.135582	2.934937	0.995984
13	0.078234	0.132149	3.285418	0.996691
14	-0.103428	0.128624	3.932015	0.995859
15	0.024085	0.125000	3.969139	0.997835

All the p-values are above the 0.05 significance level, so no correlations are evident.

Figure 8 EU Alcohol consumption forecast

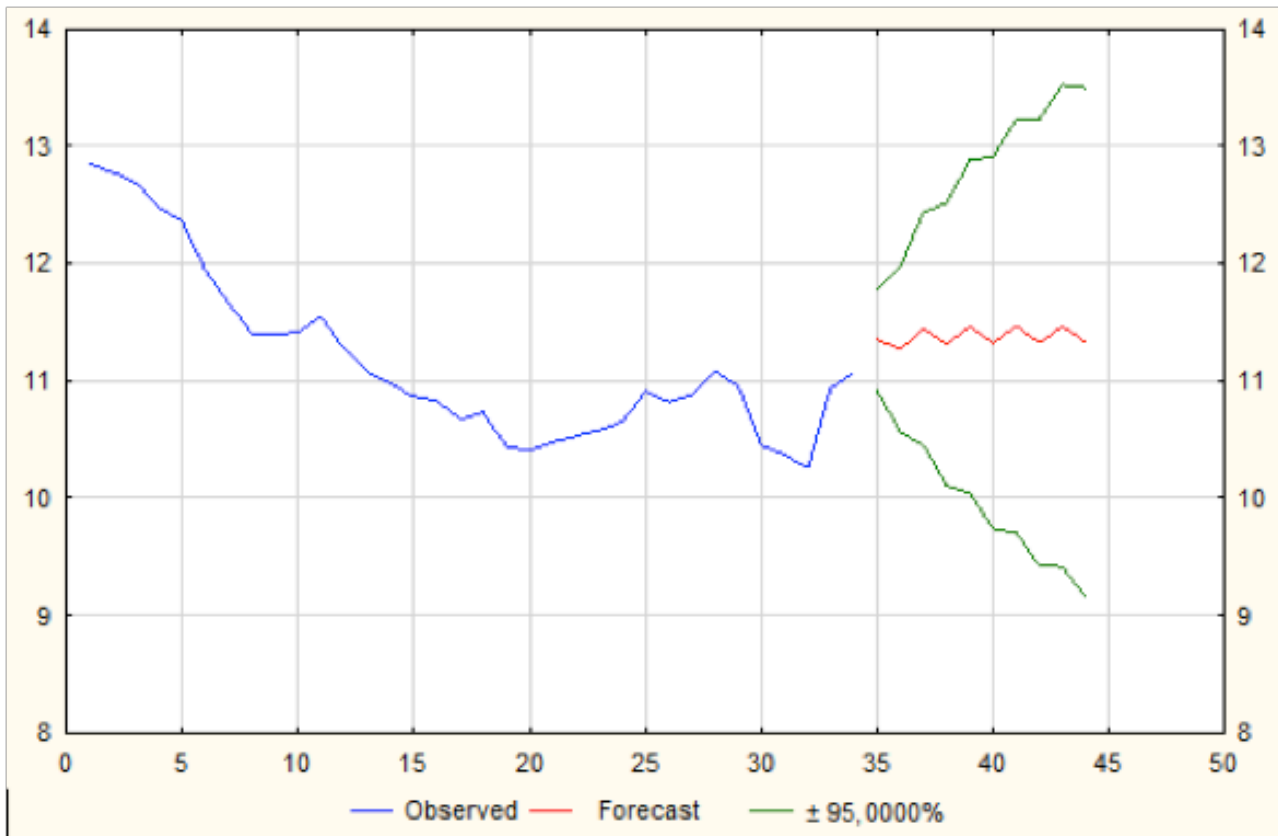


Table 4 EU Alcohol consumption forecast

Predictions: Model:(1,1,1) Seasonal alignment: 12				
Input: All types				
Start origin: 1 End origin: 34				
CaseNo.	Forecast	Lower 95.0000%	Upper 95.0000%	Std Err
2014	11.35060	10.91326	11.78793	0.214143
2015	11.26988	10.56382	11.97595	0.345726
2016	11.44245	10.44918	12.43573	0.486358
2017	11.31318	10.11087	12.51550	0.588715
2018	11.46286	10.04226	12.88347	0.695599
2019	11.32280	9.73696	12.90865	0.776510
2020	11.46740	9.70469	13.23010	0.863110
2021	11.32494	9.42427	13.22560	0,930662
2022	11.46841	9.41678	13.52003	1.004581
2023	11.32541	9.15366	13.49716	1.063399

Conclusion

The projected values of average alcohol consumption per capita in the EU for the 2014-2023 period are listed with 95% reliability. In the short term projection the confidence interval spans less than 0.9 litres, in the long term forecast it is some 4 litres. Of course, projections based on average values for all EU countries, with their different cultures, economic maturity natural conditions cannot be applicable to taking concrete measures in the individual countries. They do however tell us about the appropriateness of the forecasting method used. Equally, we can envisage its being used for a common alcohol policy in the EU countries, as well as for estimating the damage caused by the use and abuse of alcohol overall. Although the quantitative investigations tell us little about the population drinking behaviour, they are a prerequisite for subsequent standardized investigation and allow us to gauge risks and set priorities for alcohol policy at transnational level.

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