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INTANGIBLE ASSETS AND THE DETERMINANTS OF A SINGLE BANK RELATION OF GERMAN SMES

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ABSTRACT

We focus on the determinants and potential benefits of relationship banking. Based on the existing literature and the unique role intangible assets play regarding firms' capital structure, we test two hypotheses using rich data on firm-bank relationships in Germany. We show that firstly, a high share of intangible assets does not worsen the access of firms to debt financing. And secondly, firms with a high share of intangible assets are statistically significantly more likely to choose an exclusive and persistent bank relation.

KEY WORDS

relationship banking, SME, bank lending, capital structure, intangible assets

JEL CODES

G21, G32, D82, C21

1 INTRODUCTION

Germany represents an example of a bank-based financial system (Allen and Gale, 1995) characterized by strong ties between banks and firms. The German economy is shaped by a strong role of small and medium enterprises (SMEs) which are mainly financed through bank loans, making firm-bank relationships very important in Germany. Furthermore, SMEs cannot easily substitute bank loans with corporate debt during a credit crunch (Giesecke et al., 2012). In addition, one very specific characteristic of the German banking system is the existence of long-term bank relationships that firms engage in with specific banks, referred to as "house banks". A house bank acts as the main lender of a firm and acquires more relevant and more timely information about it.

Recent work by Cecchetti and Kharroubi (2015) provides robust empirical evidence that financial sector growth is a drag on real growth. Regarding the mechanism behind this finding, Cecchetti and Kharroubi (2015) introduce the

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assumption that growth in finance reflects improving technology for recovering debt in cases of default. Their theoretical model implies that financial sector growth disproportionally benefits sectors with output or assets that are more tangible. Confronting their theoretical model with the data, Cecchetti and Kharroubi (2015) find that financial sector growth benefits industries with higher asset tangibility, but harms R&D-intensive industries. This distributional effect of financial sector growth harms what economists consider engines of growth – namely, industries with lower asset tangibility or high R&D-activities (Cecchetti and Kharroubi, 2015).

Compared with arm's-length lending, there are two distortions due to relationship banking (Rajan, 1992) emphasised in the literature. Firstly, relationship lending causes poor price signals which can distort the allocation of funds. Hoshi et al. (1990) find that investments of firms with strong bank ties are less sensitive to their operating cash flow. Peek and Rosengren (1998) find that Japanese banks reallocated profitable funds into declining markets, due to strong relations with borrowers. Secondly, relationship lending reduces the liquidity of financial assets (Diamond and Rajan, 2001). In addition, a more bank-based system has a comparative disadvantage in financing intangible assets (Rajan and Zingales, 2001; Hoshi et al., 1991).

However, Germany's economy, characterized by a bank-based financial system, strong ties between banks and firms and a high share of small and medium enterprises, delivered a stable performance during the years of crises and attracted international attention. German banks with strong ties to their clients actually finance intangible assets. Therefore, the specific characteristics of relationship banking in the German financial system warrant more detailed inspection.

Our paper contributes to a broad literature. Theoretical contributions emphasize the benefits of reduced asymmetric information but also the costs of an information monopoly by banks (Boot, 2000). Results of empirical studies regarding financing conditions associated with relationship banking are mixed (Kysucky and Norden, 2016). Studies devoted to financing conditions were followed by studies focusing on firms' choice of the number of bank relations (see e.g. Farinha and Santos, 2002; Ogawa et al., 2007). However, we should keep in mind that the question of how many bank relations a firm chooses is inherently different from the question of why a firm chooses a single instead of multiple bank relations. In the following, we will focus only on the second question.

In particular, we discuss the relationship between intangible assets, capital structure and a strong tie between the firm and the bank represented by a single bank relation for German SMEs. To the best of our knowledge, the relationship between intangible assets and the number of bank relations has not yet been analyzed in the previous literature. Yet, intangible assets represent an increasingly important phenomenon (Cecchetti and Kharroubi, 2015). Using a large dataset for German SMEs and their bank relations between 2005 and 2012, we test two hypotheses. Firstly, do intangible assets worsen firms' access to external finance, as capital structure literature predicts? Following the rejection of this hypothesis, we test, secondly, whether firms with a high fraction of intangible assets are more likely to have a single bank relation?

The centerpiece of our contribution is the question of why firms decide to have a single bank relation. Based on the results of testing the first hypothesis, we employ intangible assets as an explanatory variable in a binary regression in order to identify the determinants of a single bank relation. The share of intangible assets ought to increase the probability of a strong firm-bank relation due to the firm's need to use the associated soft information channel in order to reduce financing frictions. We find that the share of intangible assets significantly increases the probability of an exclusive and persistent bank relation.

Our paper is structured as follows: the second chapter provides a literature review which summarizes theoretical and empirical contributions; the third chapter outlines our hypotheses; the fourth chapter illustrates the data; the fifth chapter provides empirical results followed by robustness analyses in chapter six; chapter seven concludes.

2 LITERATURE REVIEW

2.1 Theoretical Considerations

The seminal contribution of Diamond (1984) illustrates that a bank is the optimal channel for funds from investors to firms given costly information asymmetries between both parties. This so-called delegated monitoring model implies that firms operate with a single bank which pools the costs of asymmetric information (Diamond, 1984). By having only one lender the firm minimizes its transaction costs. The optimality of a single bank relation changes when repeated lending is considered (Sharpe, 1990). Other theoretical reasons for choosing more than one bank relation are e.g. diversification as insurance against the loss of value-relevant information (Detragiache et al., 2000) or the lack of coordination among investors (see e.g. Bolton and Scharfstein, 1996; Hart, 1995; Dewatripont and Maskin, 1995). However, it is widely observed that many firms have multiple bank relations, whereas other very similar firms prefer a strong firm-bank relation.

The theoretical literature comes to the conclusion that there are two sides to a strong firm-bank relation (Boot, 2000). On the one hand, a strong firm-bank relationship can be beneficial, as information asymmetry is reduced and loan terms better reflect the actual quality of the borrower. On the other hand, the lender can use this information monopoly to extract additional rents. Therefore, a strong relationship can produce a hold-up problem.

The idea of an advantage in the firm-bank relationship arising from the resolved information asymmetry goes back to Boot and Thakor (1994) and Petersen and Rajan (1995).

Boot and Thakor (1994) consider a model with an infinitely repeated bank-borrower relationship. Thereby, they assume risk-neutrality and the absence of learning and find that nonetheless, the firm profits from a durable bank relation in the following sense: a bank charges higher interest rates and demands collateral for loans that go to firms which are not established yet. If the bank observes a positive outcome, e.g. a project success, the firm becomes established and is awarded with unsecured loans and lower interest rates. This approach is compared to an approach where banks provide loans without "discriminating" between good and bad firms. The bank charges an average interest rate to firms. Boot and Thakor (1994) show that even if monitoring is costly, both, the firm and the bank profit from the close firm-bank relation. Therefore, banks acquire information about firms to be able to provide loans with terms and conditions specific to the individual firms' situation.

Petersen and Rajan (1995) show that in a two-period model with *good* and *bad* entrepreneurs banks also have an incentive to charge high interest rates initially and improve financing conditions for good entrepreneurs subsequently. The idea is similar to Boot and Thakor (1994) in the sense that information asymmetry about the quality of the entrepreneurs exists at the beginning and is resolved in later periods.

Taken together, both studies support the idea that a close firm-bank relationship is advantageous for firms and banks if asymmetric information exists.

The hold-up problem describes the concept that borrowing from a single bank can be costly for the firm. If a close bank-firm relationship reduces information asymmetry and if the firm cannot credibly transfer information to other parties, the bank can use this information advantage to extract additional rents (see e.g. Farinha and Santos, 2002; Sharpe, 1990; Greenbaum et al., 1989). The bank, with which the firm is in a close relationship has an information monopoly and becomes sort of an insider regarding information about the firm's creditworthiness. In a world without information asymmetry, a close firm-bank relation would not produce a the hold-up problem, since the firm could easily convey information to other lenders. Therefore, the problem is more pronounced if information asymmetry is high, i.e. if the difference between information of insiders vs. outsiders increases. One possible solution to the hold-up problem is to establish

multiple bank relations and therefore reduce the rents that arise due to the hold-up situation (Thadden, 1995).

2.2 Empirical Evidence

To assess costs and benefits of a strong firm-bank relation empirically, one has to proxy for the strength of the relation. Kysucky and Norden (2016) conduct a meta-analysis of the relationship banking literature and show that the most prominent proxies are the length of the firm-bank relation, the exclusivity of the relation (e.g. the number of banks the firm lends from), physical distance and the integration of the firm-bank relation (e.g. the number of financial services the firm obtains).

Empirical results are mixed. Petersen and Rajan (1994) were the first to empirically study the relationship between different dimensions of the strength of lending relationships with the availability and cost of funds. In a sample of US SMEs, collected from the National Survey of Small Business Finance (NSSBF), they find that firms borrowing from multiple lenders are charged significantly higher rates. The length and integration of the relationship do not affect price conditions. However, the availability of credit increases if firms spend more time in a relationship, if they increase the number of financial services they obtain in a relationship and if they concentrate their borrowing to a single or only a few lenders. In addition, Berger and Udell (1995) also use the NSSBF sample and focus their analysis on floating-rate lines of credit. They provide evidence that the length of the firm-bank relationship is negatively related to loan prices and to the probability that the lender will require collateral to secure the loan. In contrast, using a more recent NSSBF dataset, Cole (1998) finds that only the existence of a previous relationship, but not its length, is an important factor for credit availability.

Harhoff and Körting (1998) study a large sample of German SMEs. They proxy for the strength of the firm-bank relationship using the duration of the lending relationship, the number of financial institutions the firm is actually borrowing from, and a subjective indicator of trust. They find that neither the duration nor the number of financial institutions influence the costs of credit. However, collateral requirements improve with the strength of the relationship, as measured by both of these proxies.

Elsas and Krahnen (1998) follow a different approach. They study factors that determine whether a firm engages in relationship banking. To proxy for relationship banking, a written statement of the firm about whether or not a bank has house bank status is used. They show that factors related to the information access of banks are important determinants. However, the duration of the bank-borrower relationship is not related to house bank status. They empirically show that house banks provide liquidity insurance in case of unexpected deteriorations of borrower ratings. Mayer et al. (1988) describe this insurance as banks using monopoly power in good times to charge above-market rates and in exchange, therefore, providing insurance by means of below-market rates in bad times. However, in a study investigating the determinants of the existence of house banks, Elsas (2005) finds that house bank relationships become more likely as competition increases. This contradicts the conjecture that relationship banking requires monopolistic market structures and encourages research addressing firms' choice of bank relations.

Degryse and Ongena (2005) study the effect of geographical distance on bank loan rates. Using a unique data set of loans made to SMEs and single-person businesses by a Belgium bank, they show that loan rates improve with the distance between the firm and the bank and deteriorate with the distance between the firm and competing banks. In a similar vein, Petersen and Rajan (1995) find that in more concentrated markets relationship lending is more likely and that relatively more credit is available to young firms. This finding is reflected in below-market rates for young firms and, conversely, above-market rates for more mature firms.

Schenone (2010) compares firms' interest rates before and after a large information shock (IPO) which exogenously levels the playing field

among banks and, thus, erodes the relationship bank's information monopoly. Schenone (2010) finds that firms' interest rates prior to the IPO are a U-shaped function of relationship intensity but change to a decreasing function of relationship intensity after the IPO. The U-shaped pattern of interest rates is rationalized by information asymmetries between relationship banks and outside banks.

2.3 Number of Bank Relations

Early studies of relationship banking (see e.g. Petersen and Rajan, 1994; Harhoff and Körting, 1998; Cole, 1998) use the number of bank relationships as a proxy for competition among banks. The investigation of banks' choice of the number of relations then followed these initial contributions related to relationship banking.

Ongena and Smith (2000) investigate the determinants of multiple-bank relationships in a cross-country study including 1079 firms from 20 European countries. Their measure of the number of bank relationships relies on firms' reported number of banks they use for cash management purposes, which includes short-term lending, within their own country. They find that firms have more bank relationships in countries with a decentralized and healthy banking system, in countries with inefficient judicial systems, and in countries where the enforcement of creditors' rights is weak. Similarly to Houston and James (1996), Ongena and Smith (2000) find that firms with multiple bank relations tend to be larger.

In order to identify the advantages of close banking relationships, Houston and James (2001) focus on bank financing of publicly traded firms in the United States. They find that firms' size, leverage and market-to-book ratio decreases the likelihood of having a single bank relationship. Market-to-book ratio is employed to proxy firms' growth potential, meaning that their results indicate that firms with considerable growth options are less likely to be financed by a single bank. Houston and James (2001) explain this finding by banks' lending being focused on so-called hard assets and their corresponding inability to fund firms with substantial amounts of intangible growth opportunities.

Farinha and Santos (2002) focus on firms' decisions to replace a single bank relation with several relationships and employ data of young small Portuguese firms between 1980 and 1996. They show that the likelihood of firms substituting a single bank relationship in favor of several bank relation increases with the duration of its initial single bank relation. Furthermore, Farinha and Santos (2002) show that this substitution happens more frequently with firms which that have more growth opportunities or perform poorly, respectively. The first finding is explained by a lemon premium, increasing over time, which firms face when approaching an additional lender. The second finding is explained by banks limiting their exposure to poor credit, which causes poor performing firms to approach an additional lender.

Ogawa et al. (2007) analyze the choice of the number of long-term banking relations of large listed Japanese firms between 1982 and 1999. In particular, they study why firms have additional bank relations besides their main bank and the optimal number of creditors for a firm given the existence of a main lender. It is noteworthy that their data include a period of deregulation in Japan and, most importantly, the period of stagnation in the aftermath of the collapse of Japan's economy in 1990, characterized by banks burdened with a huge amount of non-performing loans. However, they present a binomial logistic regression to address the question of why firms choose a single or multiple loans. Hence, their question and approach is closely related to our analysis. Ogawa et al. (2007) find that a higher indebtedness decreases the probability of a single loan relation and liquidity increases it. Firm size and profitability do not have a systematic impact. In a multinomial logistic regression they find that the determinants of the amount of bank relations conditional on having more than one bank relation are different the determinants of the choice of a single bank relation.

3 HYPOTHESES

Relationship banking received considerable attention throughout the literature. However, we intend to be less agnostic regarding the decision of engaging in only one bank relation.

Motivated by Hall and Lerner (2010), who argue that intangible assets[1] and knowledge created by innovation are difficult to quantify as collateral for debt financing, we emphasize the role of a firm's share of intangible assets when deciding on borrowing relations. It is worth noting that research and development, as well as a highly skilled workforce, are among the main determinants of the creation of intangible assets.

Even though they are in themselves conflicting theories, both the trade-off theory of capital structure (Modigliani and Miller, 1963) and the pecking order theory (Myers and Majluf, 1984) imply difficulties to debt-finance intangible assets. The trade-off theory of capital structure describes a firm's debt-equity decision as a trade-off between an interest tax shield and the costs of financial distress, where intangible assets ought to rely primarily on equity financing (Brealey et al., 2008). The pecking order theory implies that management prefers the issuance of debt over equity, but this does not apply to intangible assets for which equity is the preferable way of financing (Brealey et al., 2008).

Benmelech and Bergman (2009) construct a measure of asset redeployability as a proxy of the value of collateral to creditors in case of default. A higher asset redeployability increases the liquidation value of the collateral. They show that asset redeployability is negatively related to credit spreads, and positively related to credit ratings as well as loan-to-value ratios in an economically significant manner. In addition, Fabbri and Menichini (2010) find that firms' financing decisions depend in multiple ways on the collateral value of their inputs, such that for example, trade credit for sufficiently liquid inputs purchased on account is not subject to credit rationing. Distinguishing between current assets and intangible assets, the former are understood to be relatively liquid and easier to redeploy than the latter.

Thus, taking into account the capital structure literature and the role of asset redeployability, we hypothesize that a higher share of intangible assets ought to be associated with more equity-financing. This leads to our first null-hypothesis, which we expect to reject:

Hypothesis 1. A higher fraction of intangible assets is not associated with a higher equity ratio.

In order to bring these considerations into connection with relationship banking and the number of bank relations, we look at the way that, as previously noted, relationship banking provides a channel for soft information. To achieve optimal financing conditions, channeling soft information is more beneficial to firms with a higher share of intangible assets. Moreover, conditionally conservative accounting systems (Göx and Wagenhofer, 2009) may theoretically give rise to the need of channeling soft information.

Thus, if achieving optimal financing conditions is a reason to engage in relationship banking with only one single bank and intangible assets represent by their nature a source of financing frictions, the causal chain we propose becomes clear. To the best of our knowledge, a causal relationship between intangible assets and the number of bank relations has not been studied in the literature yet.[2] Our second null-hypothesis states:

[1] Across the literature, definitions of intangible assets are manifold (see for example Ahonen, 2000; Petty and Guthrie, 2000; Sveiby, 1997) and even from the perspective of financial reporting according to the International Financial Reporting Standards (IFRS), valuing acquired as well as self-generated intangible assets is still seen as a black art due to the enormous difficulties and risks associated with measurement (Sharma, 2012).

[2] In addition, high quality firms, which are highly innovative and invest a lot in R&D activities, might prefer a single lender since they are not willing to share their knowledge with multiple lenders (Yosha, 1995). As noted, research and development contributes to the creation of intangible assets.

Hypothesis 2. Firms with a high fraction of intangible assets should not be more likely to have only relations with one single bank.

Hence, our contribution focuses on firms' financing conditions and the corresponding borrowing relations; it thus emphasizes firms' decisions to engage in relationship banking. We understand *Hypothesis 2* to be our main contribution.

4 DATA AND DESCRIPTIVE STATISTICS

Our data come from the Amadeus databank provided by the Bureau van Dijk. The dataset includes information on balance sheets, profit and loss accounts, the legal form, and the industrial code (Nace, Rev. 2) for German firms. The coverage of firms is relatively good for data from the period of 2005 to 2012. We limit our analysis to non-listed German firms of limited liability without floating debt between 2005 and 2012, for which we have at least 6 consecutive observations. Hence, firms in our sample have debt and equity on their balance sheets, with the debt part being composed of bank loans only.

4.1 Dependent Variable: Number of Bank Relations

In addition to information on balance sheets and profit and loss accounts, the Amadeus databank provides the amount of bank relations firms had between 2005 and 2012. The number of banks relations serves as the main dependent variable in the later analysis. However, the information about the number of bank accounts is aggregated in the following way: for each firm, the maximum number of different bank accounts within the time period from 2005 to 2012 is given. Assume for example a firm with bank accounts at Bank A and B for the period from 2005 to 2008. If this firm terminates both accounts in 2009 and opens a new account at Bank C from 2009 to 2012, the number of banks for this firm would equal three. Thus, the information regarding the number of bank relations is not time-varying. Therefore, we limit our analysis to the cross section when the number of bank relations is used as dependent variable. After dropping observations subject to logical errors, missing data, and outliers at the firm level, the time-invariant nature of the variable for bank relations requires us to aggregate all variables over years by calculating their arithmetic means, which reduces our sample to a cross-section including roughly 22,000 observations. In the robustness section, we also look into selected years to ensure that our results are not driven by the aggregation of the data.

By collapsing our data into the cross-section, the variable *number of banks* satisfies two out of four prominent proxies for relationship banking (Kysucky and Norden, 2016). First, the length of the firm-bank relation, which has to be at least six years. Second, the exclusivity of the relationship. If the amount of bank relations equals one, we know that the corresponding firm operated solely with the same bank over six years. This has the advantage that we can identify firms which operated with only one bank between 2005 and 2012. In addition, we are able to distinguish between the main players in the German banking market. For all firms that have only one bank relation, we can distinguish between relations with Deutsche Bank, Commerzbank, Cooperative Banks (Genossenschaftsbanken), and Saving Banks (Sparkassen).

Fig. 1 (Panel A) shows the distribution of bank relations. The majority of observations lies between one and three bank relations and about one quarter of firms have a single bank relation. According to the Bureau van Dijk, information regarding the number of banks is collected from the firms' annual report and capped at six. Therefore, firms in the last category can have six or more bank relations. In the empirical analysis, we will mainly distinguish between one

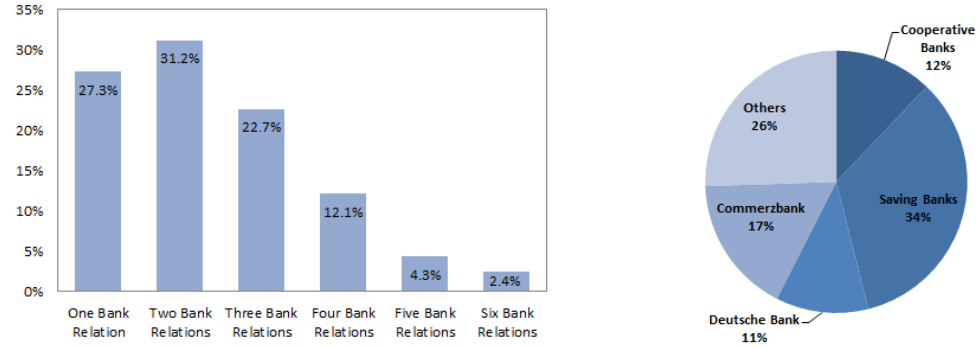

Fig. 1: Stylized Facts: This figure shows the distribution of the number of bank relations in our sample (Panel A) and the distribution of bank types among the firms with a single bank relation (Panel B).
Panel A (left): Bank Relations. This figure shows the distribution of bank relations for all 21,517 firms in our sample.
Panel B (right): Relationship Lending. This figure shows the distribution of bank types among all 5,874 firms with only one bank relation.

and more than one bank relations. Fig. 1 (Panel B) shows that one third of all firms having a single bank relation are served by Saving Banks, followed by Commerzbank (17%), Cooperative Banks (12%), and Deutsche Bank (11%). One quarter of firms with a single bank relation are financed by "non-main players" in the German banking market.

In Tab. 1, we present summary statistics of 21,517 firms. In columns (1), (2), and (3) we present the 25% quantile, the median, and the 75% quantile of firm characteristics, respectively. In columns (4), (5), and (6) the mean values of firm characteristics for firms with only one bank relation are compared to all other firms. Surprisingly, firms with only one bank relation are, on average, larger than other firms (as measured by total assets). We, therefore, conclude that size cannot be the main explanation for a difference in the number of banks. Most importantly, we find the most pronounced difference in the shares of intangible and current assets. Firms with only one bank relation have a higher share of intangible assets and a lower share of current assets on average, which is in line with our hypothesis.

4.2 Explanatory Variable: Share of Intangible Assets

Intangible assets are assets that are not physical in nature. Examples are corporate intellectual property, including items such as patents, trademarks, copyrights, software, and business methodologies, as well as goodwill, and brand recognition. Under IFRS intangible assets are defined as an identifiable non-monetary asset without physical substance. An asset is a resource that is controlled by the entity as a result of past events (for example, purchase or self-creation) and from which future economic benefits (inflows of cash or other assets) are expected. Thus, the three critical attributes of an intangible asset are identifiability, control (power to obtain a benefit from the intangible asset), and future economic benefits.

Our data allows to differentiating between four categories of intangible assets. First, patents which make the largest fraction with 37.21%. Second, Rights which include all forms of user rights, copyrights, and licenses (e.g., software). About 31.49% of intangible assets fall in this category. Third, goodwill which makes up 14.36%. This smaller fraction is not unusual since our dataset consists only of German SMEs, which are less likely to engage in M&A transactions. All other intangible assets are in the fourth group (other). The main fraction of intangible assets falls in the categories patents and rights. When firms apply for debt financing, intangible assets in both categories have high valuation risk and poor collateralizability. According to Lim et al. (2016) these characteristics of intangible assets can discourage debt financing. Yet, intangible assets can generate cash

Tab. 1: Descriptive Statistics: Firm Characteristics

	(1)	(2)	(3)	(4)	(5)	(6)
	25% Quantile	**Median**	**75% Quantile**	**> 1 Bank Relation** (mean)	**1 Bank Relation** (mean)	**Difference**
Size Variables						
Sales [TEUR]	9,540	20,891	53,808	83,214	94,162	10,948
Employees	43	90	191	286	281	−5
Total Assets [TEUR]	5,773	10,854	28,248	55,631	78,022	22,391***
Balance Sheet Items						
Equity / TA	0.1738	0.3044	0.4731	0.3350	0.3390	0.0040
ST_Debt / TA	0.1630	0.2979	0.4660	0.3300	0.3270	−0.0030
LT_DebT / TA	0.1975	0.3124	0.4463	0.3350	0.3340	−0.0010
Debt / TA	0.5269	0.6956	0.8262	0.6650	0.6610	−0.0040
Intangible Assets / TA	0.0861	0.2317	0.4664	0.0120	0.0190	0.0070***
Current Assets / TA	0.4551	0.6920	0.8587	0.6560	0.5960	−0.0600***
Profit & Loss						
Cashflow / TA	0.0494	0.0851	0.1350	0.1027	0.9811	0.8784
EBITDA / TA	0.0723	0.1224	0.1852	0.1446	0.0072	−0.1374
Interest Rate	0.0138	0.0242	0.0351	0.0260	0.0240	−0.0020***

Notes: This table presents firm characteristics for 21,517 firms. In column (6) the results of a difference in means test are reported. The null hypothesis is difference=0 where difference equals mean(1)-mean(0) with mean(1) representing firms with only one bank relation and mean(0) representing all other firms. Signs ***, **, and * denote significance on the 1%, 5%, and 10% level, respectively. Balance Sheet items, as well as Cashflow and EBITDA, are standardized by Total Assets (TA).

flows just as reliably as tangible assets and may, therefore, support debt like tangible assets do. The major challenge for banks is to assess the value of intangible assets when debt financing is required by the firm. Soft information, acquired by a strong firm-bank relation can help to reduce information asymmetry and make debt financing more attractive for both, banks and firms. We, therefore, argue that a strong bank firm relation helps to overcome the challenges and allows firms with a high share of intangible assets to finance with debt.

To test this hypothesis empirically, we use the fraction of intangible assets as explanatory. This creates a potential endogeneity problem. If firms with a higher share of intangible assets are on average more profitable compared to firms with a lower share of intangible assets, we might measure profitability by the fraction of intangible assets. To test whether an endogeneity problem exists, we employ three tests:[3] First, we check the correlation between the share of intangible assets and corporate performance measures (ROE, ROA, interest coverage ratio, and profit margin). Second, we regress corporate performance measures on the share of intangible assets including control variables in panel regression. Third, in Section 5, we compare the percentage of firms that have one bank relation between firms with a higher share of intangible assets and those with lower share, using propensity score matching.

Panel A of Tab. 2 shows the correlation coefficients between the share of intangible assets and Return on Equity, Return on Assets, Interest Coverage Ratio, and Profit Margin. All coefficients are close to zero and negative. In addition, only the correlations between the share of intangible assets and ROA and ROE are significant. These results provide support against an endogeneity problem.

[3]We thank an anonymous referee for this suggestion.

Tab. 2: The Relation between Profitability and the Share of Intangible Assets

	(1)	(2)	(3)	(4)
Panel A				
Profitability measure	**ROE**	**ROA**	**ICR**	**Profit Margin**
Correlation with Intangible Assets	−0.0052**	−0.0087**	−0.0007	−0.0001
Panel B				
Dependent variable	**ROE**	**ROA**	**ICR**	**Profit Margin**
Intangible Assets/Total Assets	−0.439	−0.032	−1,834.348	−14.214
Controls	yes	yes	yes	yes
State fixed effects	yes	yes	yes	yes
Year fixed effects	yes	yes	yes	yes
Number of Firms:	21,517	21,517	21,517	21,517
Number of Years:	6.71	6.71	6.71	6.71

Notes: This table presents results of a correlation analysis (Panel A) and of four panel regressions (Panel B). In Panel A the correlation between the share of intangible assets and four profitability measures are presented. The correlations are calculated in the cross section and average values per firm are used. In Panel B the results of four OLS panel regressions are presented. The profitability measures are Return on Equity (ROE, column 1), Return on Assets (ROA, Column 2), Interest Coverage Ratio (ICR, Column 3), and Profit Margin (Column 4). Signs ***, **, and * denote significance on the 1%, 5%, and 10% level, respectively.

We also analyze the relation of intangible assets and corporate performance in a multivariate panel framework. Panel B of Tab. 2 presents the results of four OLS panel regressions with ROA, ROE, Interest Coverage Ratio, and Profit Margin as the dependent variable, respectively. In all four regression firm and time fixed effects are included. The set of control variables contains the number of employees, fixed assets, current assets, and equity, all standardized by total assets. The coefficient of the share of intangible assets is insignificant in all four regressions, providing further support against an endogeneity problem. Results of the third test are presented in Section 5.

5 ESTIMATION AND RESULTS

5.1 Capital Structure

Both the trade-off theory of capital structure and the pecking order theory imply that intangible assets impair debt-financing. Thus, firms whose share of intangible assets is above one of the thresholds used here ought to have higher equity ratios.

To address this question, we apply propensity score matching as introduced by Rosenbaum and Rubin (1983 and 1985) and implemented by Leuven and Sianesi (2003). We use the Average Treatment Effect on the Treated (ATT) to identify the effects of a higher share of intangible assets on firms' capital structure. Thereby, our treatment group are firms with a high share of intangible assets. As stated by Stuart (2010), when estimating causal effects using observational data, it is desirable to replicate a randomized experiment as closely as possible by obtaining treated and control groups with similar covariate distributions. This goal can often be achieved by choosing well-matched samples of the original treated and control groups, thereby reducing bias due to the covariates. We apply this method to match firms with a high share of intangible assets with firms with a low share. However, since our matching variable (share of intangible assets) is continuous, defining the treatment group is not trivial. Therefore, we define three different treatment groups and match firms accordingly.

The first treatment group consists of firms with a share of intangible assets (IA) larger than zero. We match this group with firms without any intangible assets. However, since it might make a difference whether a firm has only a small fraction of intangible assets or almost entirely consists of intangible assets (e.g., Coca Cola) we use also the mean and median share of intangible assets as the threshold for the treatment group. The sample median is approximately 0.03%, whereas the mean is approximately 1.44%.

Firms whose share of intangible assets is above one of these three thresholds ought to face higher equity ratios, according to the capital structure literature and the role of asset redeployability. Since the share of intangible assets is not assigned completely at random to firms, the probability of receiving treatment $P(D = 1)$ or receiving no treatment $P(D = 0)$, will be estimated conditional on the following confounders: firm size (proxied by sales and number of employees); tangible assets (standardized by total assets); long-term debt (standardized by total assets); short-term debt (standardized by total assets); cash flow (standardized by total assets); EBITDA (standardized by total assets); net income (standardized by total assets); industry dummies; main economic regions dummies. We do not include current assets since current assets and tangible assets are highly correlated (correlation: -0.89***). The correlation between intangible assets and tangible assets is too small cause a multicollinearity problem (correlation: -0.0814). The outcome variable, Y, is firms' equity ratio, which equals equity divided by total assets. The estimated "Average Treatment Effect on the Treated" (ATT) is

$$\begin{aligned} \text{ATT} &= E\left[Y(1) \mid D = 1\right] - \\ &\quad - E\left[Y(0) \mid D = 0\right] + \text{SB}, \quad (1) \end{aligned}$$

where $E\left[Y(1) \mid D = 1\right]$ is the expected outcome given treatment, $E\left[Y(0) \mid D = 0\right]$ is the expected outcome in the absence of treatment, and SB is the selection bias.

We estimate equation (1) in various permutations. The treatment is varied in that it refers to the share of intangible assets exceeding either the sample mean or the median or zero. The matching algorithm is varied between the nearest neighbor, the two nearest neighbors, the three nearest neighbors or a normally distributed kernel using a range of 0.06. Covering all possible combinations, we run twelve propensity score matching estimations.

The ATT is estimated in the cross section since our main dependent variable, the number of bank relations, is not time varying and we want to apply a consistent methodology throughout the analysis. The panel data is collapsed to the cross section by taking averages over time by firm. For example, if we observe the share of intangible assets for company A over a time period of six years, we use the average share of intangible assets over that time period. For robustness, we also apply panel estimations of the ATT. The results are similar and therefore not reported.

In an unmatched comparison, the equity ratio of firms whose share of intangible assets is above one of the specified thresholds is statistically significantly higher. This can be seen for all three thresholds. For example, if we compare firms with a share of intangible assets greater than the median to those with intangible assets smaller or equal to the median, the mean difference in the equity ratio is 0.027. This difference is significant on the 1% level (t-value of 8.81). However, if we employ equity ratio as the outcome variable Y according to equation (1), Tab. 3 shows that the differences in equity ratios disappear comparing matched firms. This holds for all three thresholds and all four matching algorithms. We cannot reject the null-hypothesis 1. This suggests that intangible assets are determined without regard to capital structure. We expect the reason for this to be relationship banking.

The R-squared in logistic regressions can be interpreted as a measure of heterogeneity. In our specifications, the low value of the pseudo R-squared reveals that average heterogeneity is low. For the main specifications, Fig. 2, 3, and 4 visualize that observations are quite equally distributed along the propensity score, especially when the mean and median are used as thresholds. The technically high quality of our estimations supports the approach.

Tab. 3: Propensity Score Matching – Results – Inangible Assets and Equity Ratio

Treatment	Intangible Assets > Mean					Intangible Assets > Mean				
Matching	Nearest Neighbor					2 Nearest Neighbors				
Model	Logit					Logit				
	Treated	Controls	Difference	S.E.	T-Statistic	Treated	Controls	Difference	S.E.	T-Statistic
Unmatched	0.344	0.335	0.009**	0.004	2.290	0.344	0.335	0.009**	0.004	2.290
ATT	0.344	0.343	0.001	0.006	0.090	0.344	0.344	0.000	0.005	0.020
pseudo R-squared			0.104					0.104		
Number of Obs			17004					17004		
Treatment	Intangible Assets > Mean					Intangible Assets > Mean				
Matching	3 Nearest Neighbors					Kernel				
Model	Logit					Logit				
	Treated	Controls	Difference	S.E.	T-Statistic	Treated	Controls	Difference	S.E.	T-Statistic
Unmatched	0.344	0.335	0.009**	0.004	2.290	0.344	0.335	0.009**	0.004	2.290
ATT	0.344	0.345	−0.001	0.005	−0.270	0.344	0.343	0.001	0.006	0.090
pseudo R-squared			0.104					0.104		
Number of Obs			17004					17004		
Treatment	Intangible Assets > Median					Intangible Assets > Median				
Matching	Nearest Neighbor					2 Nearest Neighbors				
Model	Logit					Logit				
	Treated	Controls	Difference	S.E.	T-Statistic	Treated	Controls	Difference	S.E.	T-Statistic
Unmatched	0.350	0.323	0.027***	0.003	8.810	0.350	0.323	0.027***	0.003	8.810
ATT	0.350	0.356	−0.006	0.005	−1.220	0.350	0.354	−0.004	0.005	−0.970
pseudo R-squared			0.112					0.112		
Number of Obs			17004					17004		
Treatment	Intangible Assets > Median					Intangible Assets > Median				
Matching	3 Nearest Neighbors					Kernel				
Model	Logit					Logit				
	Treated	Controls	Difference	S.E.	T-Statistic	Treated	Controls	Difference	S.E.	T-Statistic
Unmatched	0.350	0.323	0.027***	0.003	8.810	0.350	0.323	0.027***	0.003	8.810
ATT	0.350	0.354	−0.004	0.004	−0.900	0.350	0.356	−0.006	0.005	−1.220
pseudo R-squared			0.112					0.112		
Number of Obs			17004					17004		
Treatment	Intangible Assets > 0					Intangible Assets > 0				
Matching	Nearest Neighbor					2 Nearest Neighbors				
Model	Logit					Logit				
	Treated	Controls	Difference	S.E.	T-Statistic	Treated	Controls	Difference	S.E.	T-Statistic
Unmatched	0.341	0.289	0.052***	0.005	9.620	0.341	0.289	0.052***	0.005	9.620
ATT	0.341	0.351	−0.010	0.013	−0.730	0.341	0.341	0.001	0.012	0.050
pseudo R-squared			0.141					0.141		
Number of Obs			17004					17004		
Treatment	Intangible Assets > 0					Intangible Assets > 0				
Matching	3 Nearest Neighbors					Kernel				
Model	Logit					Logit				
	Treated	Controls	Difference	S.E.	T-Statistic	Treated	Controls	Difference	S.E.	T-Statistic
Unmatched	0.341	0.289	0.052***	0.005	9.620	0.341	0.289	0.052***	0.005	9.620
ATT	0.341	0.345	−0.003	0.011	−0.280	0.341	0.351	−0.010	0.013	−0.730
pseudo R-squared			0.141					0.141		
Number of Obs			17004					17004		

Notes: This table shows the results of twelve propensity score matching estimations. The term *Logit* expresses that the matching algorithm is based on a logistic regression framework. The twelve estimations are the combination of three different definitions for the treatment group (intangible assets larger than: zero, the sample median, or the sample mean) with four different matching algorithms (matching by: nearest neighbor, the two nearest neighbors, the three nearest neighbors, and a normally distributed kernel with a range of 0.06). For each estimation the average equity ratio for the treatment group ("treated") and the control group ("Controls"), as well as the mean difference ("Difference is shown. Under S.E. we show the standard error of a mean comparison test and the corresponding t-statistic. The difference and the t-statistic of the "Average Treatment Effect on the Treated" (ATT) are the most important measures. The measures show whether the *equity ratio* (defined as equity / total assets) of treated firms significantly differs from that of untreated firms. Signs ***, **, and * indicate significance on the 1%, 5%, and 10% level, respectively.

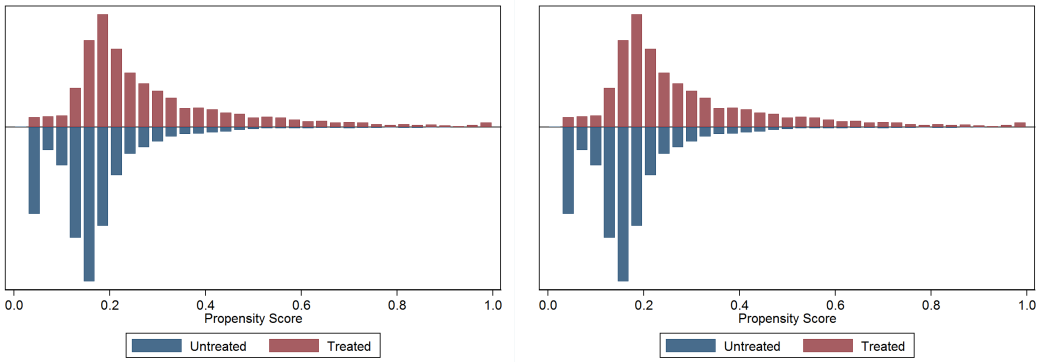

Fig. 2: Propensity Score Matching with threshold "mean share of intangible assets" – Quality. This figure shows the distribution of all 21,517 firms along the propensity score for the mean share of intangible assets as threshold and the nearest neighbor (panel A) and kernel (panel B) matching algorithm

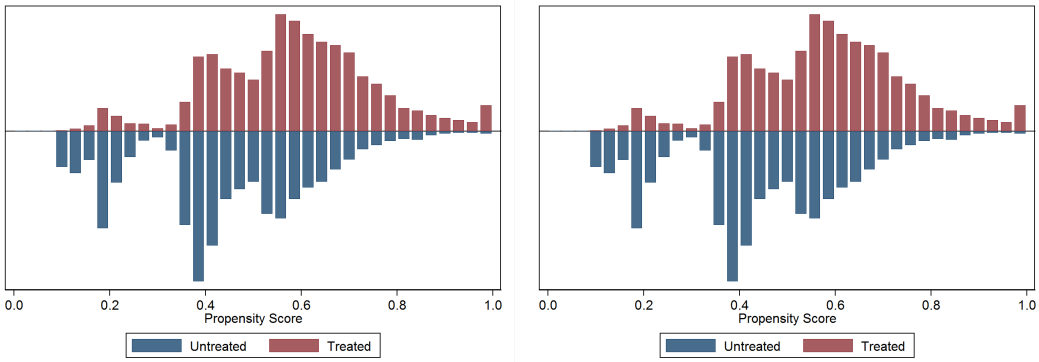

Fig. 3: Propensity Score Matching with threshold "median share of intangible assets" – Quality. This figure shows the distribution of all 21,517 firms along the propensity score for the median share of intangible assets as threshold and the nearest neighbor (panel A) and kernel (panel B) matching algorithm

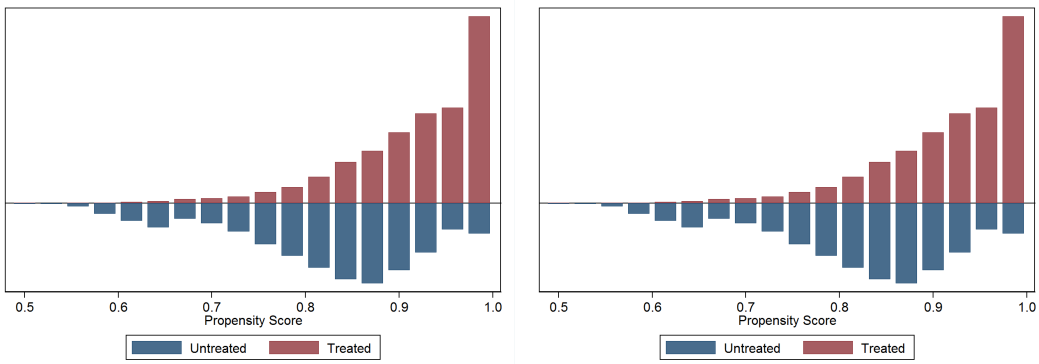

Fig. 4: Propensity Score Matching with threshold "share of intangible assets larger than zero" – Quality. This figure shows the distribution of all 21,517 firms along the propensity score for the share of intangible assets being larger than zero as threshold and the nearest neighbor (panel A) and kernel (panel B) matching algorithm

All in all, results show that intangible assets do not prevent German SMEs from debt financing. We expect that German SMEs can circumvent the financing frictions associated with intangible assets by a strong bank relation, referred to as relationship banking. This directly implies our second hypothesis, namely that a higher share of intangible assets increases the probability of having an exclusive and persistent bank relation.

5.2 Intangible Assets and Number of Bank Relations

Before we test the determinants of relationship banking (hypothesis 2), we want to compare the fraction of firms that have one bank relation in the treatment group and the untreated group. We apply the same matching algorithms and treatment thresholds as in Tab. 3. The difference is, that the outcome variable is now the fraction of firms with only one bank relation.

Tab. 4 shows the results of twelve propensity score matching estimations. The results are less clear compared to the previous estimation. In the unmatched comparison, the difference between treated and untreated firms is significant for all three thresholds. In all cases, the untreated group (less share of intangible assets) has a lower share of firms with only one bank relation. In general, this would support our hypothesis that intangible assets are one of the drivers to engage in relationship banking. However, the results of the matched comparison are mixed. We find a significant difference in the fraction of firms with only one bank relation in six out of twelve comparisons. For all thresholds, the 2 and 3 nearest neighbors algorithm lead to significant results. The results provide evidence in support of the idea, that firms with a high share of intangible assets engage more in relationship banking. Also, results show that the effect is not only driven by intangible assets since we find no significant effect for the nearest neighbor and kernel algorithm. To provide sharper evidence and to control for other potential drivers we estimate determinants of relationship banking in the following subsection.

5.3 Determinants of Relationship Banking

Based on previous studies we combine the following variables in order to explain the choice of the number of bank relations: firm size, proxied by either sales or employees; asymmetric information, proxied by intangible assets (standardized by total assets); redeployable collateral, proxied by current assets (standardized by total assets); indebtedness, proxied either by debt (standardized by total assets) or by the ratio of short term debt to long term debt; and liquidity/profitability, proxied by EBITDA. In order to assess whether a higher share of intangible assets determines firms' number of bank relations, we estimate the following baseline regression:

$$\begin{aligned}\text{Probability (Relationship Banking} = 1) &= \\ = f\,(&\text{Size, Current Assets,} \\ &\text{Intangible Assets, Indebtedness,} \\ &\text{EBITDA, Control Variables}),\end{aligned} \tag{2}$$

where Relationship Banking equals 1 for firms with one bank relation and 0 otherwise. Control variables include binary variables for industries at the section level according to the industrial code (Nace, Rev. 2) and a binary variable which equals 1 in case the firm is located in one of three main economic regions of Germany (Bavaria, Baden-Wuerttemberg, Nordrhein-Westfalen), where bank concentration can be expected to be higher than in other regions.

Regarding the expected signs of our variables: proxies for firm size are expected to increase the number of bank relations; as we argue along the lines of collateral redeployability, current assets are expected to increase the number of bank relations because the soft channel of a strong firm-bank relation is less needed; indebtedness is expected to increase the probability of having only one bank relation since a strong bank relation may help to ease credit constraints; in the three main economic regions of Germany we expect relationship banking to be less likely, as suggested by to Petersen and Rajan (1995).

Tab. 4: Propensity Score Matching – Results – Intangible Assets and Probability of a Single Bank Relation

Treatment	Intangible Assets > Mean					Intangible Assets > Mean				
Matching	Nearest Neighbor					2 Nearest Neighbors				
Model	Logit					Logit				
	Treated	Controls	Difference	S.E.	T-Statistic	Treated	Controls	Difference	S.E.	T-Statistic
Unmatched	0.312	0.266	−0.046***	0.009	−5.020	0.312	0.266	−0.046***	0.009	−5.020
ATT	0.312	0.290	−0.022	0.014	−1.530	0.312	0.287	−0.025**	0.012	−2.030
pseudo R-squared	0.104					0.104				
Number of Obs	15226					15226				
Treatment	Intangible Assets > Mean					Intangible Assets > Mean				
Matching	3 Nearest Neighbors					Kernel				
Model	Logit					Logit				
	Treated	Controls	Difference	S.E.	T-Statistic	Treated	Controls	Difference	S.E.	T-Statistic
Unmatched	0.312	0.266	−0.046***	0.009	−5.020	0.312	0.266	−0.046***	0.009	−5.020
ATT	0.312	0.284	−0.029**	0.012	−2.440	0.312	0.290	−0.022	0.014	−1.530
pseudo R-squared	0.104					0.104				
Number of Obs	15226					15266				
Treatment	Intangible Assets > Median					Intangible Assets > Median				
Matching	Nearest Neighbor					2 Nearest Neighbors				
Model	Logit					Logit				
	Treated	Controls	Difference	S.E.	T-Statistic	Treated	Controls	Difference	S.E.	T-Statistic
Unmatched	0.267	0.284	−0.018**	0.007	−2.460	0.267	0.284	−0.018**	0.007	−2.460
ATT	0.267	0.285	−0.018	0.011	−1.600	0.267	0.291	−0.024**	0.010	−2.420
pseudo R-squared	0.112					0.112				
Number of Obs	15266					15226				
Treatment	Intangible Assets > Median					Intangible Assets > Median				
Matching	3 Nearest Neighbors					Kernel				
Model	Logit					Logit				
	Treated	Controls	Difference	S.E.	T-Statistic	Treated	Controls	Difference	S.E.	T-Statistic
Unmatched	0.267	0.284	−0.018**	0.007	−2.460	0.267	0.284	−0.018**	0.007	−2.460
ATT	0.267	0.289	−0.022**	0.010	−2.290	0.267	0.285	−0.018	0.011	−1.600
pseudo R-squared	0.112					0.112				
Number of Obs	15226					152664				
Treatment	Intangible Assets > 0					Intangible Assets > 0				
Matching	Nearest Neighbor					2 Nearest Neighbors				
Model	Logit					Logit				
	Treated	Controls	Difference	S.E.	T-Statistic	Treated	Controls	Difference	S.E.	T-Statistic
Unmatched	0.267	0.361	−0.094***	0.013	−7.32	0.267	0.362	−0.094***	0.013	−7.320
ATT	0.267	0.300	−0.033	0.033	−1.01	0.267	0.296	−0.029**	0.014	−2.030
pseudo R-squared	0.140					0.140				
Number of Obs	15226					15226				
Treatment	Intangible Assets > 0					Intangible Assets > 0				
Matching	3 Nearest Neighbors					Kernel				
Model	Logit					Logit				
	Treated	Controls	Difference	S.E.	T-Statistic	Treated	Controls	Difference	S.E.	T-Statistic
Unmatched	0.267	0.361	−0.094***	0.013	−7.320	0.267	0.361	−0.094***	0.013	−7.320
ATT	0.267	0.295	−0.028**	0.014	−2.010	0.267	0.300	−0.033**	0.033	−1.010
pseudo R-squared	0.140					0.140				
Number of Obs	15226					15226				

Notes: This table shows the results of twelve propensity score matching estimations. The term *Logit* expresses that the matching algorithm is based on a logistic regression framework. The twelve estimations are the combination of three different definitions for the treatment group (intangible assets larger than: zero, the sample median, or the sample mean) with four different matching algorithms (matching by: nearest neighbor, the two nearest neighbors, the three nearest neighbors, and a normally distributed kernel with a range of 0.06). For each estimation the fraction of firms with only one bank relation for the treatment group ("treated") and the control group ("Controls"), as well as the mean difference ("Difference") are shown. Under S.E. we show the standard error of a mean comparison test and the corresponding t-statistic. The difference and the t-statistic of the "Average Treatment Effect on the Treated" (ATT) are the most important measures. The measures show whether the *fraction of firms with only one bank relation* of treated firms significantly differs from that of untreated firms. Signs ***, **, and * indicate significance on the 1%, 5%, and 10% level, respectively.

Since our dependent variable in equation (2) is a count variable, which is discrete-valued and truncated, an OLS estimation produces biased results for both, slope coefficient and standard errors. However, our pre-estimation analysis includes the use of a Bayesian-moving-average based on OLS in order to test for the potential need of additional covariates, which is not given in our case.

Our variable of main interest, which is the share of intangible assets, enters the regression standardized by total assets. The sample mean of the share of intangible assets equals approximately 1.44% and the 90%-quantile starts at approximately 2.88%. To classify the results appropriately, it is important to keep in mind that a one unit change on average in the share of intangible assets represents a huge increase in intangible assets. Hence, the corresponding coefficient can be roughly interpreted as entering the 90%-quantile of the share of intangible assets.

5.4 Logistic Regression

Given the nature of our dependent variable, a logistic regression is the most appropriate estimation method. Since the number of bank relations between 2005 and 2012 is reported across years, we know that if it equals 1 the corresponding firm had exactly one bank relation in this time period. Hence, transforming the dependent variable such that it equals 1 for a firm with only one bank relation and 0 for everything else offers a sharp distinction.

Tab. 5 presents the results of four logistic regression specifications. Two different proxies for firm size and indebtedness were used. In specification I and II, the number of employees proxy for size, whereas in specification III and IV total sales are used. Indebtedness is proxied by total debt divided by total assets (specification I and III) and by the fraction of short- to long-term debt (specification II and IV). Following *Hypothesis 2*, the null hypothesis states that the share of intangible assets does not affect the probability of running an exclusive and persistent bank relation. We can reject the null hypothesis on a 1% significance level. The fraction of intangible assets significantly increases the probability of having only one bank relation. Thereby, the odds ratio can be interpreted as the factor by which the odds of having only one bank relation increase[4]. The odds ratio for an explanatory variable i with an coefficient β_i is calculated as e^{β_i}. In our case, this means, that a 1 percentage point increase in the ratio of intangible assets ($\frac{1}{100}$unit increase) corresponds to an odds ratio of $e^{\frac{1}{100}\beta_i}$. For specification I, this results in an odds ratio of $e^{0.02314} = 1.0234$. Therefore, the odds of having only one bank relation increase by 2.34% per 1 percentage point increase in the fraction of intangible assets. Our results are robust to the use of different size and indebtedness proxies. In summary, we can reject our second null-hypothesis.

In addition, size proxies are neither statistically significant (sales) nor economically meaningful (employees). Both proxies for indebtedness are significant and positive. Firms with a higher fraction of debt are more likely to have a single bank relation which is in line with Ogawa et al. (2007). One interpretation of this finding is that greater indebtedness is a signal, albeit not necessarily a reliable one, for low borrower quality to outside lenders. Therefore, firms are not able to establish a second bank relation, since they can not convincingly communicate their true quality. Not reported but worth mentioning is the result that firms located in one of three main economic regions of Germany are less engaged in relationship banking, which is in line with Petersen and Rajan (1995).

Next, we estimate predicted probabilities and marginal effects of our logistic regression with an emphasis on variation in the share of intangible assets. Since more than 90% of firms have a share intangible assets between 0 and 9%, we vary the share of intangible assets

[4]For example, if a firm has a 10% probability of having only one bank relation, the odds for this firm are $\frac{10\%}{90\%} = .11$. An odds ratio now gives the change in the odds of having only one bank relation, if an explanatory variable is increased by one unit. An odds ratio of 10.12, for example, translates to odds of having only one bank relation of $0.11 \cdot 10.12 = 1.12$, resulting in a new probability of having one bank relation of 53%. The odds ratio can range from 0 to ∞ with an odds ratio of 1 implying no effect of the explanatory variable.

Tab. 5: Logistic Regression – Determinants of Relationship Banking

	(I)		(II)		(III)		(IV)	
Dependent variable	**Relationship Coeff.**	**Banking 0/1 Odds Ratio**	**Relationship Coeff.**	**Banking 0/1 Odds Ratio**	**Relationship Coeff.**	**Banking 0/1 Odds Ratio**	**Relationship Coeff.**	**Banking 0/1 Odds Ratio**
Employees	−0.011*** (0.003)	0.999	−0.009*** (0.003)	1.000				
Sales					0.001 (0.001)	1.000	0.001 (0.002)	1.000
Current Assets/ Total Assets	−0.257*** (0.073)	0.773	−0.261*** (0.078)	0.770	−0.170* (0.088)	0.843	−0.199** (0.082)	0.820
Intangible Assets/ Total Assets	2.594*** (0.324)	13.383	2.211*** (0.354)	9.125	2.782*** (0.313)	16.151	2.218*** (0.312)	9.189
Debt/ Total Assets	0.299*** (0.088)	1.349			0.197*** (0.074)	1.218		
EBITDA/ Total Assets	−0.084*** (0.096)	0.919	−0.075*** (0.101)	0.928	−0.063 (0.083)	0.939	−0.077 (0.068)	0.926
Constant	−0.539 (0.348)		−0.333 (0.293)		−0.521 (0.345)		−0.328 (0.299)	
Industry Dummies	yes		yes		yes		yes	
Main Region Dummies	yes		yes		yes		yes	
Number of Observations	21,517		21,517		17,166		17,166	
Correctly Classified	74.81%		72.21%		73.12%		71.27%	
Area under ROC Curve	0.699		0.665		0.679		0.618	

Notes: (1) Signs * (**) [***] denotes significance at the 10% (5%) [1%] level. (2) Robust standard errors are reported in parentheses. (3) Employees expressed in terms of 100.

Tab. 6: Logistic Regression – Predicted Probabilities and Marginal Effects

	(I)	(II)	(III)	(IV)
Dependent variable	**Relationship Banking 0/1**	**Relationship Banking 0/1**	**Relationship Banking 0/1**	**Relationship Banking 0/1**
Pred. Prob. all Variables at means	0.260*** (0.003)	0.260*** (0.003)	0.276*** (0.004)	0.276*** (0.004)
Pred. Prob. if IA/TA = 0	0.254*** (0.003)	0.254*** (0.003)	0.268*** (0.004)	0.269*** (0.004)
Pred. Prob. if IA/TA = 1%	0.258*** (0.003)	0.258*** (0.003)	0.273*** (0.004)	0.273*** (0.004)
Pred. Prob. if IA/TA = 3%	0.267*** (0.003)	0.267*** (0.003)	0.283*** (0.004)	0.283*** (0.004)
Pred. Prob. if IA/TA = 5%	0.276*** (0.004)	0.277*** (0.004)	0.292*** (0.004)	0.293*** (0.004)
Pred. Prob. if IA/TA = 7%	0.286*** (0.005)	0.286*** (0.005)	0.302*** (0.006)	0.303*** (0.006)
Pred. Prob. if IA/TA = 9%	0.295*** (0.006)	0.296*** (0.006)	0.312*** (0.007)	0.313*** (0.007)

Notes: (1) Signs * (**) [***] denotes significance at the 10% (5%) [1%] level. (2) Robust standard errors are reported in parentheses. (3) Prod. Prob. stands for "Predicted Probability", IA and TA stands for Intangible Assets and Total Assets, respectively. (4) Roman numerals in the header refer to Tab. 5.

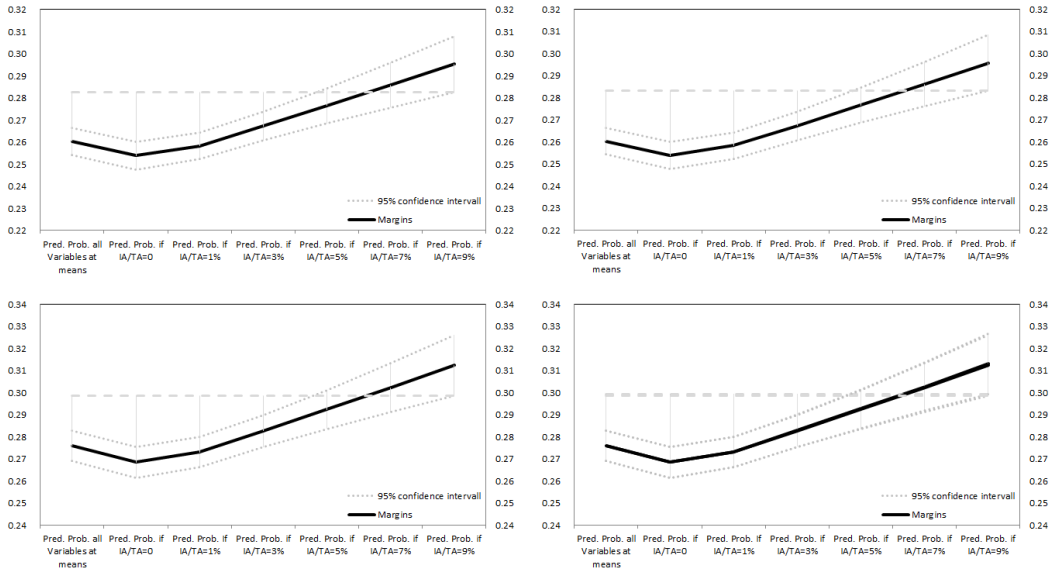

Fig. 5: Predicted Probabilities and Marginal Effects. Figures visualize the marginal effects and predicted probabilities from the estimation in Tab. 6 for all 21,517 observations. The horizontal axis shows groups of firms by the fraction of intangible assets. The fraction is defined as intangible assets (IA) divided by total assets (TA) and ranges from 0% to 9%. The vertical axis shows the estimated probability of having only a single bank relation. The 95% confidence interval of the estimated probability is displayed by the dashed gray line.

in that range and estimate the corresponding predicted probabilities. The first row of Tab. 6 shows the predicted probability of an exclusive and persistent bank relation, given that all independent variables are set to their mean. Below, the predicted probability of an exclusive and persistent bank relation, given that all independent variables are set to their mean but the share of intangible assets equals zero is shown. The next rows show the predicted probability of an exclusive and persistent bank relation, given that all independent variables are set to their mean but the share of intangible assets equals 1%, 3%, etc.

Tab. 6 shows that margins continuously increase in the share of intangible assets. However, standard errors and in turn confidence intervals also increase in the share of intangible assets.

Fig. 5 visualizes the margins and the corresponding confidence intervals. The lower end of the confidence interval of the predicted probability at a share of intangible assets of 9% remains in all cases untouched by the higher end of the confidence intervals of shares of intangible assets of 3% and below.

6 ROBUSTNESS

In order to provide robust results, we estimate equation (1) and equation (2) for selected subsamples. Since we calculate averages over time and perform a cross-sectional analysis, we run equation (1) and equation (2) for 2006 and 2012 with the aim of illustrating whether our obtained results are stable over time.

Tab. 7 and 8 show that the equity ratio of firms whose share of intangible assets is above one of the specified thresholds is not statistically significantly higher, comparing matched firms. Thus, this relationship has not changed over time in our sample. Again, treatment refers to the share of intangible assets exceeding the

Tab. 7: Propensity Score Matching – Results – Intangible Assets and Equity Ratio – 2006

Treatment	Intangible Assets > Mean					Intangible Assets > Mean				
Matching	Nearest Neighbor					2 Nearest Neighbors				
Model	Logit					Logit				
	Treated	Controls	Difference	S.E.	T-Statistic	Treated	Controls	Difference	S.E.	T-Statistic
Unmatched	0.350	0.339	0.011	0.004	2.730	0.350	0.339	0.011	0.004	2.730
ATT	0.350	0.352	−0.002	0.006	−0.250	0.350	0.349	0.001	0.005	0.240
pseudo R-squared			0.099					0.099		
Number of Obs			15209					15209		
Treatment	Intangible Assets > Mean					Intangible Assets > Mean				
Matching	3 Nearest Neighbors					Kernel				
Model	Logit					Logit				
	Treated	Controls	Difference	S.E.	T-Statistic	Treated	Controls	Difference	S.E.	T-Statistic
Unmatched	0.350	0.339	0.011	0.004	2.730	0.350	0.339	0.011	0.004	2.730
ATT	0.350	0.351	−0.001	0.005	−0.160	0.350	0.352	−0.002	0.006	−0.250
pseudo R-squared			0.099					0.099		
Number of Obs			15209					15209		
Treatment	Intangible Assets > Median					Intangible Assets > Median				
Matching	Nearest Neighbor					2 Nearest Neighbors				
Model	Logit					Logit				
	Treated	Controls	Difference	S.E.	T-Statistic	Treated	Controls	Difference	S.E.	T-Statistic
Unmatched	0.354	0.328	0.026	0.003	7.870	0.354	0.328	0.026	0.003	7.870
ATT	0.354	0.362	−0.008	0.005	−1.450	0.354	0.359	−0.005	0.005	−1.140
pseudo R-squared			0.110					0.110		
Number of Obs			15209					15209		
Treatment	Intangible Assets > Median					Intangible Assets > Median				
Matching	3 Nearest Neighbors					Kernel				
Model	Logit					Logit				
	Treated	Controls	Difference	S.E.	T-Statistic	Treated	Controls	Difference	S.E.	T-Statistic
Unmatched	0.354	0.328	0.026	0.003	7.870	0.354	0.328	0.026	0.003	7.870
ATT	0.354	0.361	−0.007	0.005	−1.490	0.354	0.362	−0.008	0.005	−1.450
pseudo R-squared			0.110					0.110		
Number of Obs			15209					15209		
Treatment	Intangible Assets > 0					Intangible Assets > 0				
Matching	Nearest Neighbor					2 Nearest Neighbors				
Model	Logit					Logit				
	Treated	Controls	Difference	S.E.	T-Statistic	Treated	Controls	Difference	S.E.	T-Statistic
Unmatched	0.345	0.298	0.047	0.006	7.830	0.345	0.298	0.047	0.006	7.830
ATT	0.345	0.344	0.001	0.014	0.080	0.345	0.340	0.005	0.013	0.380
pseudo R-squared			0.134					0.134		
Number of Obs			15209					15209		
Treatment	Intangible Assets > 0					Intangible Assets > 0				
Matching	3 Nearest Neighbors					Kernel				
Model	Logit					Logit				
	Treated	Controls	Difference	S.E.	T-Statistic	Treated	Controls	Difference	S.E.	T-Statistic
Unmatched	0.345	0.298	0.047	0.006	7.830	0.345	0.298	0.047	0.006	7.830
ATT	0.345	0.345	0.000	0.012	−0.030	0.345	0.344	0.001	0.014	0.080
pseudo R-squared			0.134					0.134		
Number of Obs			15209					15209		

Notes: This table shows the results of twelve propensity score matching estimations for a subsample of our dataset. The subsample consists of 21,517 firms in the year 2006. Observations from other years are not taken into account. The term *Logit* expresses that the matching algorithm is based on a logistic regression framework. The twelve estimations are the combination of three different definitions for the treatment group (intangible assets larger than: zero, the sample median, or the sample mean) with four different matching algorithms (matching by: nearest neighbor, the two nearest neighbors, the three nearest neighbors, and a normally distributed kernel with a range of 0.06). For each estimation the average equity ratio for the treatment group ("treated") and the control group ("Controls"), as well as the mean difference ("Difference") is shown. Under S.E. we show the standard error of a mean comparison test and the corresponding t-statistic. The difference and the t-statistic of the "Average Treatment Effect on the Treated" (ATT) are the most important measures. The measures show whether the *equity ratio* (defined as equity / total assets) of treated firms significantly differs from that of untreated firms. Signs ***, **, and * indicate significance on the 1%, 5%, and 10% level, respectively.

Tab. 8: Propensity Score Matching – Results – Intangible Assets and Equity Ratio – 2012

Treatment	Intangible Assets > Mean					Intangible Assets > Mean				
Matching	Nearest Neighbor					2 Nearest Neighbors				
Model	Logit					Logit				
	Treated	Controls	Difference	S.E.	T-Statistic	Treated	Controls	Difference	S.E.	T-Statistic
Unmatched	0.346	0.336	0.010	0.004	2.350	0.346	0.336	0.010	0.004	2.350
ATT	0.346	0.346	0.000	0.006	0.070	0.346	0.348	−0.002	0.005	−0.290
pseudo R-squared			0.104					0.104		
Number of Obs			15226					15226		
Treatment	Intangible Assets > Mean					Intangible Assets > Mean				
Matching	3 Nearest Neighbors					Kernel				
Model	Logit					Logit				
	Treated	Controls	Difference	S.E.	T-Statistic	Treated	Controls	Difference	S.E.	T-Statistic
Unmatched	0.346	0.336	0.010	0.004	2.350	0.346	0.336	0.010	0.004	2.350
ATT	0.346	0.350	−0.004	0.005	−0.810	0.346	0.346	0.000	0.006	0.070
pseudo R-squared			0.104					0.104		
Number of Obs			15226					15226		
Treatment	Intangible Assets > Median					Intangible Assets > Median				
Matching	Nearest Neighbor					2 Nearest Neighbors				
Model	Logit					Logit				
	Treated	Controls	Difference	S.E.	T-Statistic	Treated	Controls	Difference	S.E.	T-Statistic
Unmatched	0.353	0.323	0.029	0.003	8.970	0.353	0.323	0.029	0.003	8.970
ATT	0.353	0.354	−0.001	0.005	−0.250	0.353	0.356	−0.004	0.005	−0.790
pseudo R-squared			0.112					0.112		
Number of Obs			15226					15226		
Treatment	Intangible Assets > Median					Intangible Assets > Median				
Matching	3 Nearest Neighbors					Kernel				
Model	Logit					Logit				
	Treated	Controls	Difference	S.E.	T-Statistic	Treated	Controls	Difference	S.E.	T-Statistic
Unmatched	0.353	0.323	0.029	0.003	8.970	0.353	0.323	0.029	0.003	8.970
ATT	0.353	0.357	−0.005	0.004	−1.080	0.353	0.354	−0.001	0.005	−0.250
pseudo R-squared			0.112					0.112		
Number of Obs			15226					15226		
Treatment	Intangible Assets > 0					Intangible Assets > 0				
Matching	Nearest Neighbor					2 Nearest Neighbors				
Model	Logit					Logit				
	Treated	Controls	Difference	S.E.	T-Statistic	Treated	Controls	Difference	S.E.	T-Statistic
Unmatched	0.343	0.284	0.060	0.006	10.260	0.343	0.284	0.060	0.006	10.260
ATT	0.343	0.347	−0.003	0.014	−0.230	0.343	0.342	0.001	0.012	0.110
pseudo R-squared			0.140					0.140		
Number of Obs			15226					15226		
Treatment	Intangible Assets > 0					Intangible Assets > 0				
Matching	3 Nearest Neighbors					Kernel				
Model	Logit					Logit				
	Treated	Controls	Difference	S.E.	T-Statistic	Treated	Controls	Difference	S.E.	T-Statistic
Unmatched	0.343	0.284	0.060	0.006	10.260	0.343	0.284	0.060	0.006	10.260
ATT	0.343	0.344	−0.001	0.011	−0.050	0.343	0.347	−0.003	0.014	−0.230
pseudo R-squared			0.140					0.140		
Number of Obs			15226					15226		

Notes: This table shows the results of twelve propensity score matching estimations for a subsample of our dataset. The subsample consists of 21,517 firms in the year 2012. Observations from other years are not taken into account. The term *Logit* expresses that the matching algorithm is based on a logistic regression framework. The twelve estimations are the combination of three different definitions for the treatment group (intangible assets larger than: zero, the sample median, or the sample mean) with four different matching algorithms (matching by: nearest neighbor, the two nearest neighbors, the three nearest neighbors, and a normally distributed kernel with a range of 0.06). For each estimation the average equity ratio for the treatment group ("treated") and the control group ("Controls"), as well as the mean difference ("Difference") is shown. Under S.E. we show the standard error of a mean comparison test and the corresponding t-statistic. The difference and the t-statistic of the "Average Treatment Effect on the Treated" (ATT) are the most important measures. The measures show whether the *equity ratio* (defined as equity / total assets) of treated firms significantly differs from that of untreated firms. Signs ***, **, and * indicate significance on the 1%, 5%, and 10% level, respectively.

Tab. 9: Logistic Regression – Determinants of Relationship Banking – 2006

	(I)		(II)		(III)		(IV)	
Dependent variable	**Relationship Coeff.**	**Banking 0/1 Odds Ratio**	**Relationship Coeff.**	**Banking 0/1 Odds Ratio**	**Relationship Coeff.**	**Banking 0/1 Odds Ratio**	**Relationship Coeff.**	**Banking 0/1 Odds Ratio**
Employees	−0.009**	0.991	−0.009**	0.993				
	(0.004)		(0.004)					
Sales					0.002	1.002	0.003	1.003
					(0.002)		(0.002)	
Current Assets/ Total Assets	−0.372***	0.689	−0.333***	0.717	−0.342***	0.711	−0.304***	0.738
	(0.094)		(0.094)		(0.094)		(0.093)	
Intangible Assets/ Total Assets	2.736***	14.425	2.598***	13.437	2.248***	9.473	2.231***	9.309
	(0.400)		(0.404)		(0.389)		(0.387)	
Debt/ Total Assets	0.285***	1.330			0.269**	1.331		
	(0.106)				(0.110)			
EBITDA/ Total assets	−0.055*	0.947	−0.031*	0.967	−0.048	0.953	−0.029	0.972
	(0.031)		(0.017)		(0.056)		(0.038)	
Constant	−0.483		−0.326		−0.657**		−0.542*	
	(0.332)		(0.321)		(0.334)		(0.331)	
Industry Dummies	yes		yes		yes		yes	
Main Region Dummies	yes		yes		yes		yes	
Number of Observations	13,989		13,989		12,410		12,409	
Correctly Classified	75.12%		73.15%		73.72%		72.44%	
Area under ROC Curve	0.6576		0.6376		0.6444		0.6301	

Notes: (1) Signs * (**) [***] denotes significance at the 10% (5%) [1%] level. (2) Robust standard errors are reported in parentheses. (3) Employees expressed in terms of 100.

sample mean or median or zero and the matching algorithm is either the nearest neighbor, the two nearest neighbors, the three nearest neighbors or a normally distributed kernel using a range of 0.06.

Results in Tab. 9 and 10 illustrate that the statistically significant relationship between the probability of having only one bank relation and the fraction of intangible assets does not change over time. In the beginning, as well as in the end of our sample period the fraction of intangible assets statistically significantly increases the probability of having only one bank relation. We, therefore, conclude that our results are robust over time and not driven by the aggregation of the data.

However, the significance of the coefficient of current assets divided by total assets and the size of the coefficient of intangible assets divided by total assets change from 2006 to 2012. Yet, some variation of the results over time is more than acceptable.

Since we already emphasized the distribution of the fraction of intangible assets divided by total assets, we first exclude firms whose intangible assets equal zero. Doing so, we focus on firms where the change in the share of intangible assets excludes a change from zero to a positive value. Tab. 11 shows that if the share of intangible assets exceeds zero, the fraction of intangible assets still statistically significantly increases the probability of having only one bank relation.

In addition to excluding firms without intangible assets, we exclude firms whose share of intangible assets is in the highest 1%-quantile. However, the fraction of intangible assets still statistically significantly increases the probability of having only one bank relation (see Tab. 12).

In summary, these analyses confirm the robustness of our results.

Tab. 10: Logistic Regression – Determinants of Relationship Banking – 2012

	(I)		(II)		(III)		(IV)	
Dependent variable	**Relationship Coeff.**	**Banking 0/1 Odds Ratio**	**Relationship Coeff.**	**Banking 0/1 Odds Ratio**	**Relationship Coeff.**	**Banking 0/1 Odds Ratio**	**Relationship Coeff.**	**Banking 0/1 Odds Ratio**
Employees	−0.006**	1.000	−0.005**	1.000				
	(0.002)		(0.002)					
Sales					0.003	1.003	0.002	1.002
					(0.002)		(0.002)	
Current Assets/ Total Assets	−0.062	0.940	−0.057	0.944	0.011	1.011	0.035	1.036
	(0.061)		(0.080)		(0.098)		(0.098)	
Intangible Assets/ Total Assets	1.742***	5.707	1.733***	5.661	1.680***	5.367	1.503***	4.497
	(0.359)		(0.366)		(0.379)		(0.361)	
Debt/ Total Assets	0.307***	1.359			0.444***	1.559		
	(0.078)				(0.103)			
EBITDA/ Total Assets	−0.053**	0.948	−0.030**	0.961	−0.032	0.957	−0.051	0.950
	(0.089)		(0.163)		(0.117)		(0.091)	
Constant	−0.716**		−0.884		−0.992**		−0.651**	
	(0.337)		(0.991)		(0.428)		(0.300)	
Industry Dummies	yes		yes		yes		yes	
Main Region Dummies	yes		yes		yes		yes	
Number of Observations	20,166		20,166		13,853		13,850	
Correctly Classified	74.11%		73.84%		71.92%		70.76%	
Area under ROC Curve	0.6633		0.6453		0.6234		0.6210	

Notes: (1) Signs * (**) [***] denotes significance at the 10% (5%) [1%] level. (2) Robust standard errors are reported in parentheses. (3) Employees expressed in terms of 100.

Tab. 11: Logistic Regression – Determinants of Relationship Banking – IA/TA > 0

	(I)		(II)		(III)		(IV)	
Dependent variable	**Relationship Coeff.**	**Banking 0/1 Odds Ratio**	**Relationship Coeff.**	**Banking 0/1 Odds Ratio**	**Relationship Coeff.**	**Banking 0/1 Odds Ratio**	**Relationship Coeff.**	**Banking 0/1 Odds Ratio**
Employees	−0.005***	1.000	−0.004***	1.000				
	(0.001)		(0.001)					
Sales					0.003	1.003	0.002	1.001
					(0.004)		(0.003)	
Current Assets/ Total Assets	−0.224*	0.801	−0.201**	0.818	−0.079	0.924	−0.073	0.930
	(0.120)		(0.086)		(0.098)		(0.107)	
Intangible Assets/ Total Assets	2.227***	9.270	2.197***	8.999	2.694***	14.792	2.672***	14.469
	(0.327)		(0.314)		(0.311)		(0.312)	
Debt/ Total Assets	0.216**	1.241			0.331**	1.392		
	(0.089)				(0.147)			
EBITDA/ Total assets	−0.054	0.947	−0.071	0.932	−0.085	0.919	−0.064	0.939
	(0.101)		(0.084)		(0.099)		(0.103)	
Constant	−0.777*		−0.873		−0.811**		−0.743*	
	(0.391)		(0.494)		(0.316)		(0.399)	
Industry Dummies	yes		yes		yes		yes	
Main Region Dummies	yes		yes		yes		yes	
Number of Observations	19,633		19,633		15,616		15,616	
Correctly Classified	73.18%		72.81%		72.11%		71.32%	
Area under ROC Curve	0.6432		0.6211		0.6337		0.6328	

Notes: (1) Signs * (**) [***] denotes significance at the 10% (5%) [1%] level. (2) Robust standard errors are reported in parentheses. (3) Employees expressed in terms of 100.

Tab. 12: Logistic Regression – Determinants of Relationship Banking – 0 < IA/TA < 99-quantile

	(I)		(II)		(III)		(IV)	
Dependent variable	**Relationship Coeff.**	**Banking 0/1 Odds Ratio**	**Relationship Coeff.**	**Banking 0/1 Odds Ratio**	**Relationship Coeff.**	**Banking 0/1 Odds Ratio**	**Relationship Coeff.**	**Banking 0/1 Odds Ratio**
Employees	−0.006** (0.003)	1.000	−0.007** (0.003)	1.000				
Sales					0.001 (0.001)	1.000	0.003 (0.002)	1.002
Current Assets/ Total Assets	−0.139* (0.081)	0.865	−0.152** (0.081)	0.859	−0.071 (0.089)	0.931	−0.089 (0.088)	0.914
Intangible Assets/ Total Assets	3.117*** (0.621)	22.578	3.241*** (0.611)	25.559	3.318*** (0.430)	27.605	3.574*** (0.399)	35.681
Debt/ Total Assets	0.224** (0.085)	1.251			0.211** (0.101)	1.234		
EBITDA/ Total assets	−0.054 (0.101)	0.947	−0.138 (0.187)	0.871	−0.143 (0.148)	0.865	−0.167 (0.167)	0.846
Constant	−0.578** (0.299)		−0.493* (0.287)		−0.632** (0.301)		−0.536* (0.297)	
Industry Dummies	yes		yes		yes		yes	
Main Region Dummies	yes		yes		yes		yes	
Number of Observations	19,415		19,415		15,419		15,419	
Correctly Classified	72.98%		72.66%		71.93%		71.11%	
Area under ROC Curve	0.6256		0.6181		0.6111		0.6009	

Notes: (1) Signs * (**) [***] denotes significance at the 10% (5%) [1%] level. (2) Robust standard errors are reported in parentheses. (3) Employees expressed in terms of 100.

7 CONCLUSION

We discuss the relationship between intangible assets, capital structure and the number of bank relations of German SMEs. Separately, these topics have already received much attention in the academic literature. We thus contribute significantly by combining them in a meaningful way and, in particular, by assigning a special role to the connection between intangible assets and firms' choice of bank relation. Based on the existing literature we derive two hypotheses. For each of them, the null hypothesis can be rejected and results are in favor of our hypotheses.

Using a large dataset for German SMEs including their bank relations between 2005 and 2012, we test two hypotheses. First, a higher fraction of intangible assets should lead to a higher equity ratio. We find that in a matched comparison there is no statistically significant difference in equity ratios among firms due to their share of intangible assets. We propose a strong firm-bank relation to helping firms circumvent the financing frictions related to intangible assets emphasized in the literature. This naturally yields our next hypothesis. Secondly, we hypothesize that firms with a high fraction of intangible assets should be more likely to engage in relationship banking, which we proxy for by the number of bank relations. We find that firms with a higher share of intangible assets are more likely to have a relationship with only one single bank. This close firm-bank relation can help to overcome debt-financing problems.

We divide firms into three groups separated by their share of intangible assets. A descriptive comparison reveals substantial differences in equity ratios. Given the existence of potential confounders, we estimate a propensity score matching model. Once, we are able to compare "Treated" firms with the "Controls", we find no statistically significant difference in equity

ratios anymore. If relationship banking helps firms with a higher share of intangible assets to receive bank loans, firms' borrower decision ought to be determined by their share of intangible assets.

Hence, the centerpiece of our contribution is to address the question of why firms decide to have only one bank relation. We have information regarding the number of bank relations of each firm, which is best employed in a binary fashion. Using this data, we indeed find that the share of intangible assets significantly increases the probability of an exclusive and persistent bank relation. This result turns out to be robust with regard to the analysis of several subsamples of our data.

Since our research is also motivated by Germany's stable performance during the global financial crisis and recent insights into the connection of financial sector growth and real growth (Cecchetti and Kharroubi, 2015), we show a possible, but marginal explanation for these observations.

Given data availability, future research should be extended to cross-country studies. The three-pillar structure of German the banking system is similar to banking systems in other European countries such as Austria, France, Italy, Spain and Sweden (Brunner et al., 2004). A cross-country analysis including those European countries is a natural extension of our analysis, which would allow to controlling for country-specific characteristics of relationship banking.

8 REFERENCES

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RUSSIA'S INTEGRATION TO THE GLOBALIZED AUTOMOTIVE SYSTEM: SOLUTIONS ADOPTED BY MULTINATIONALS AND IMPACT ON THE LOCAL INDUSTRIAL ENVIRONMENT

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ABSTRACT

The automotive industry has reached a very high level of international integration. It expanded in Russia at the end of the first decade of the century. The paper aims at describing the problems encountered in the first years of the process and how car manufacturers and their suppliers have evolved and adapted over a period of almost 10 years. Using a qualitative inductive methodology, based on interviews of Western European and Russian participants to the expansion, and using a case of failure as an extreme situation, the author identifies a certain number of influencing factors and describes how they have evolved trough the years. Finally, the paper concentrates on two phenomena that need more investigation, i.e. the reason for a small representation of Russian suppliers and the generic subculture of Russians working for foreign corporations. The results provide also a model of the implantation process on a new market that can be used for further research or to train and support managers involved in international projects.

KEY WORDS

Russia, automotive, management, globalization, suppliers, business culture

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1 INTRODUCTION

In the last 30 years, the automotive sector was marked by a strong internationalization that led to the creation of a multi-regional integrated system often considered as one of the best examples of the "global factory" described by Buckley and Ghauri (2004). The transformation, which started in the 80's when Spain and Portugal joined the European Union, accelerated strongly 10 years later, when most Central European countries integrated the system, and when emerging countries such as China and Brazil started to open themselves to

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the international automotive business. It was not until the year 2008 that the integration process started to affect Russia, as a response to new localization laws formalized by the local government. If many articles describe how the global automotive system developed and how it is organized (Colovic and Mayrhofer, 2008; Freyssenet and Lung, 2001; Schmid, 2011; Schmitt and Van Biesebroeck, 2013; Sturgeon et al., 2009), few research looks at the way the system expands to new regions and how it impacts the existing industrial environment (Archambeau, 2011; Gules et al., 1999; Lockström et al., 2010; Pavlínek, 2008). Strikingly enough, to our knowledge, very little has been written on how the Russian automotive sector has changed in recent years. Yet, the rise of the automotive industry in new territories requires not only a high level of know-how transfer, done either by setting up new production plants or by cooperating with existing local producers, but also a "rapid control of complex, entire industry and research sectors" (Archambeau, 2011, p. 258).

In this respect, the case of Russia is interesting for several reasons. First, unlike all new automotive target markets, at the time of the USSR, Russia was able to produce a considerable number of vehicles. Second, since the end of Socialism, Russia has suffered from a bad image with investors (Amoux, 2013; Holtbrügge and Puck, 2009; Pan, 2016; Rozhnov, 2007). While many multinationals are present in Russia today, the decision to establish in the country seems to be more challenging than for other expending markets. Third, the recourse to strategic alliances with local companies seems to be very limited. The economic press and scholar literature tend to mention almost exclusively examples of failures (Aycan et al., 2000; Barnes et al., 1997; Zineldin and Dodourova, 2005), without giving appropriate explanations. Moreover, the number of in-depth analyses is almost non-existent (Ayios, 2004).

This paper intends to investigate Russia's integration process into the globalized automotive system, to identify the major barriers or influencing factors that may have hindered its development in the starting phase, to understand how these have been overcome over a period of 10 years, and to form a first judgement on its consequences on the Russian industrial environment. To do this, we are using an inductive qualitative method based on the interviews of automotive companies, made up of three groups of actors, first a certain number of experts or specialists of the Russian automotive market, secondly several subcontractors producing automotive parts, and thirdly OEM's using these parts to manufacture vehicles in local factories. Throughout the paper, we will follow a convention initiated by Soulsby and Clark (2007, p. 1437) and use the relatively unprecise word "Westerner" for entities or individuals with a longer experience of advanced market economies (i.e. not exposed to a socialist economy).

After briefly recalling the state of the literature on company internationalization, on the specificity of the automotive industry as well as on Russia, seen as a reindustrializing country, we shall describe the methodology of our research and give detailed information on the population that we have interviewed. We shall then identify the various barriers or influencing factors mentioned by the interviewees, whenever their implementation was successful or not. We shall subsequently seek to differentiate between the factors that seem persistent on the ten years' span and those which were more linked to the economic backwardness of the country and see how they were overcome. Finally, we will describe the level of regional integration of the Russian automotive market as well as the specificity that persists despite a strong inclusion process, recall the limits of our approach and suggest other inquiries and possible research works.

2 COMPANY INTERNATIONALIZATION, RUSSIA AND THE AUTOMOTIVE INDUSTRY

2.1 Factors Influencing Internationalization Processes

To comprehend the structure of internationalization processes, we need to recall the features that corporations consider when judging about companies' achievements. Scholars working on the internationalization process have raised many questions such as how to evaluate the benefits to the business (Dunning, 1988) and how to select an entry mode that optimizes transaction costs (Webster, 1992; Williamson, 1981). In one of the few existing holistic approaches, the School of Uppsala (Johanson and Vahlne, 1977 and 2009) insisted on the importance of an accurate preparation, on the effect of the psychic distance with the target country or on the capacity to build trust within one's network.

After the project kick-off, corporations need to manage knowledge transfers (Edwards et al., 2007) while taking into consideration the impact of several factors such as the pressure of markets (Edwards et al., 2007) or the existing power relationships between the expanding company and local organizations (Clark and Geppert, 2006). The success of the project implementation depends also on the relations to partners (Håkanson, 2014) in accordance with the habits of the affiliated sector. Although described as rational, internationalization projects may also be impacted by several social or psychological factors such as the creation of knowledge through social interaction (Reihlen and Apel, 2007), the nature of the relations with partners (Beddi et al., 2017) or the power games played by actors of the different entities (Bouquet and Birkinshaw, 2008; Geppert et al., 2016).

The literature with particular focus on export has attempted to define a certain number of barriers (Arteaga-Ortiz and Fernández-Ortiz, 2010; Leonidou, 1995). While these categories may be appropriate to understand why certain companies export more than others, they can hardly be applicable to other entry modes such as strategic alliances or FDIs. Besides, as they tend to look at the situation at a specific time, they are more useful to make diagnostic surveys of existing situations than to understand the constraints of a given market.

2.2 The Automotive Industry

The globalization of the automotive industry has been described intensively by numerous scholars (Boyer and Freyssenet, 2000; Colovic and Mayrhofer, 2008). The aim of integration strategies was to reduce costs by increasing the volumes produced, taking advantage of lower wages when possible, and promoting a strong standardization that leaves little space for local adaptations (Schmid, 2011). Placed in the centre of the system, OEMs monitor the levels of internationalization or externalization of the industry, as well as the extent of the "spatial integration or disintegration" that is considered necessary (PIPAME, 2010).

While organizing themselves around emerging markets (Berger, 2013), OEMs have given rise to global vertical partnerships (Donada, 2014), often obliging suppliers to align with the strategies they had defined. The "global partners" negotiate contracts applicable all over the World (Sturgeon et al., 2009) and supply similar or identical products everywhere (Edwards and Ferner, 2002, p. 98). Moreover, to avoid disrupting the flow of just in time supply they are often "encouraged" to set up production close to the automotive plants (Schmitt and Van Biesebroeck, 2013).

Finally, the automotive industry provides a good illustration of transfer processes which, implicitly or not, intend to replace existing systems, considered inefficient and outdated, with Western models. In this sense, scholars have attested the emergence of a form of unidirectional communication, described either as "low context transfers" (Child, 2000) or "mimetic processes" (Clark and Geppert, 2006, p. 342).

2.3 Russia Faced to Globalization

A little more than twenty-five years ago, Russia endured a brutal switch to a capitalistic economy. When the barriers which isolated the Soviet society disappeared, a massive translation of Western management literature provided local enterprises with knowledge essential to survive. Simultaneously, NMC's introduced a real competition and widespread the use of modern management practices (Björkman et al., 2007). Even though the country joined the WTO in 2011, Russian enterprises have had limited exposure to the international sphere for several reasons, such as the pre-eminence of oil and raw materials in trade, the membership to an economic union that it dominates[1], and the fact of being, in many ways, an enclave far from trade triads.[2] Consequently, the Russian business fabric is very fragmented, with numerous business practices (Krylov, 2013), as well as a very differentiated international experience. Augustynowicz (2014) provided data on Russian corporations which shows that only 43% of Russian companies have been exposed, in some way or another, to international competition.[3]

Often considered the most risky emerging market (Kouznetsov, 2009), Russia has definitely a bad image with investors. This is partly the consequence of an excessive communication around the problems encountered in the country by several MNCs such as IKEA, BP or Carrefour (IKEA Russian Adventure …, 2009; Russia: BP-Rosneft …, 2011; Jamois, 2011; Müller, 2016), or of transient annoyances linked to geopolitical issues (Petroff, 2014). But it is not a mere communication issue! If many MNCs have taken the decision to establish in Russia, they complain about a certain number of problems: widespread corruption and opacity (Ledeneva, 2006; Orttung, 2014), institutional ambiguity generated by an "incomplete institutional transformation" (Kusznir, 2016), and the persistence of unwritten rules and practices difficult to understand (Ledeneva, 2006; Zon, 2008). Indeed, in spite of the change in the economic system, Russia has kept a heavy bureaucracy (Olimpieva, 2010; Olimpieva and Pachenkov, 2013), a lagging stock-exchange (Li et al., 2012), as well a strong intervention of the state (Alon and Herbert, 2009).

Finally, cooperation with Western companies may be made difficult because of strong differences in references and values, as well as diverging working styles (Chanlat, 1990; Chevrier, 2000; Hofstede, 2003). The literature on post-socialism has also shown that foreign partners tend to minimize local knowledge, seen "as relatively insignificant in strategic terms" (Clark and Geppert, 2006, p. 344). This "structural asymmetry" (Clark and Geppert, 2006), combined with Russian national pride (Ardichvili et al., 1998), makes difficult, not only the transfer of information and the desire to "teach and learn" (Wang et al., 2001), but also any form of cooperation.

3 METHODOLOGY AND DATA

We are using a qualitative inductive approach, based on a case study methodology (see Eisenhardt, 1989; Yin, 2006 and 2014), formed around a case of failure and completed with the interviews of companies which have successfully implemented a business in Russia. Following Pettigrew (1990) who advices to take advantage of extreme situations to make a process "transparently observable", we based the first step of our comprehension of the automotive industry expansion process on an evaluation of the problems encountered by a company which failed to establish in Russia.

[1] 87% of trade within the Eurasia Economic Union (Vinokurov, 2017).

[2] See for example Dicken (2015).

[3] Figures by number of employees. The groups concerned are: State owned or mixed companies on strategic sectors (20%), Independent companies with activity abroad (18%), Western-Russian Joint-ventures (1%), Foreign subsidiaries (4%).

If the antonym of the word "failure" is "success", a failure is not simply a non-success. A success usually opens the way to the implementation of a new service or to the beginning of a new project. A failure follows another logic and may have more serious psychological consequences, mainly because it often leads to the sudden stop of several actions (Edmondson, 2011). Consequently, guilt or deception often lead actors to review repeatedly what happened, to analyse occurrences and to try to understand what went wrong. People concerned tend to recall the different features of the project that failed for a longer time. Searching for causes and responsibilities allows to explore more precisely the interactions between the different actors, highlighting difficulties that may have remained hidden and unnoticed. If questioning is done gradually, and if it is possible to overcome guilt or denial, working on a failure generates more interesting information than trying to understand the reasons for a success or which difficulties were properly handled (Kam, 2004). Moreover, examples of failure bring to light unforeseen factors such as, in our case, several constraints that may have seemed obvious such as the implicit rules of the globalized automotive industry, the fact of changing trade areas, or the difficulty of choosing the right intermediaries to bridge differences. Interestingly, corporations are today more aware of the interest of analysing failures, theirs or those happening to companies of the same industry (Cannon and Edmondson, 2005).

To have practicable data, we decided to interview only corporations that had established in Russia recently enough, or that had restructured their activities little time before, and we met only the persons who had managed or witnessed the implementation processes. We considered three categories of interviewees: first, mainly in the starting phase, experts or rigorous observers of the market, second, part suppliers working for Western car manufacturers (OEMs), and third, managers involved in the selection and follow-up of such companies. Tab. 1 contains the list of persons interviewed and shows the categories to which they belong. Even if it was difficult, we tried to have the highest possible number of Russian nationals, to have a balanced perception between Westerners and locals. We also tried to have a good representation of situations of confrontations between Russians and Westerners. Finally, since Russia was mainly perceived by the industry as an extension of the Western and Central European markets, we considered that it was more representative to focus only on European companies. We did not seek for an accurate statistical representation, but favoured most recent cases of implementation or relocation, as well as interviewees who had witnessed the largest part of the process.

The aim of the interviews was mainly descriptive, as we wanted to understand how the integration process took place over a period of 10 years, and our major objectives were to discern the influence of the different factors, to recreate the peculiarity of the implementation in Russia (or of the first contacts with the automotive industry), and to understand what was important to know to approach this market. Eisenhardt (1989) considers that inductive case studies can provide comprehensive descriptions of a new or evolving industry, mentioning the work done by Kidder (1982).

We used a semi-structured questionnaire made as broad as possible to respond to the different situations encountered, i.e. Westerners starting a new business in the country or locals discovering the specificity of a new sector. The data collected from the actors involved in the case of failure helped us make our questioning more accurate, mainly for the list of potential factors (see Tab. 3). As is made possible with an abductive methodology, we had some overlap between data collection and data analysis, as well as back-and-forth motions to complete information, induce reactions to unexpected messages and test the importance of the various factors identified. In certain cases, we met the actors a second and even a third time to make theme react to the first information collected. We also used several memos written in between interview sessions.

For the analysis of data, the literature provided a certain number of potential factors which helped us develop an exploratory grid

Tab. 1: Interviewee Population

Company and nationality	Activity	Informant (described by function)	Nationality	Interview (numbers and years)	Major topic covered	Category
Subcontractors / automotive suppliers						
CarSeat* (1) (German)	Automotive polyurethane producer	CEO	Belgian	1 (2013)	Launch of operations in Russia (failure)	Part supplier
		Vice President Finance	British	1 (2013)	Launch of operations in Russia (failure)	Part supplier
		Vice President Sales Marketing	Belgian	2 (2012, 2015)	Launch of operations in Russia (failure)	Part supplier
		Development Manager	French	3 (2008, 2012, 2015)	Launch of operations in Russia (failure)	Part supplier
		Controller	Belgian	1 (2013)	Launch of operations in Russia (failure)	Part supplier
		Quality Director	Belgian	2 (2013, 2015)	Launch of operations in Russia (failure)	Part supplier
		Process Manager	Australian	1 (2014)	Launch of operations in Russia (failure)	Part supplier
		Technical Manager	Russian	1 (2013)	Launch of operations in Russia (failure)	Part supplier
		CEO Russian Sub.	Russian	2 (2013, 2015)	Launch of operations in Russia (failure)	Part supplier
		HR Manager	Russian	1 (2015)	Launch of operations in Russia (failure)	Part supplier
Purfoam* (Russian)	Polyurethane producer (2)	CEO	Russian	1 (2013)	Cooperation and launch of operations in the automotive industry	Part supplier
		Lawyer	Russian	1 (2013)	Cooperation and launch of operations in the automotive industry	Part supplier
Foamaksent* (Russian)	Polyurethane producer (2)	Shareholder	Russian	1 (2015)	Cooperation and launch of operations in the automotive industry	Part supplier
		Shareholder	Russian	1 (2017)	Cooperation and launch of operations in the automotive industry	Part supplier
BASF Coatings (German)	Automotive producer of refinish paint	Sales Manager	Russian	1 (2010)	Launch of operations in Russia	Expert/observer
BASF Group (German)	Automotive supplier (partly)	CEO Russian Sub.	German	1 (2017)	Overview of situation of the automotive industry in Russia	Part supplier
Eternit Russia (Belgian)	Automotive supplier (partly)	CEO Russian Sub.	Belgian	1 (2010)	Launch of operations in Russia	Part supplier
AD Plastic (Croatia)	Automotive supplier	Sales Manager	Croatian	1 (2015)	Reorganization of operations in Russia	Part supplier
Lear Corporation (USA)	Automotive seat supplier	CEO Russian Sub.	French	1 (2014)	Launch of operations in Russia	Part supplier
Faurecia (French)	Automotive seat supplier	CEO Russian Sub.	French	1 (2015)	Launch of operations in Russia	Part supplier
Foamline (Russian)	Automotive polyurethane supplier	Sales manager (automotive)	Russian	1 (2017)	Launch of operations in the automotive industry	Part supplier
Sotex (Russian)	Automotive polyurethane supplier	CEO (automotive activity)	Austrian	1 (2017)	Launch of operations in the automotive industry	Part supplier
Car manufacturer / OEM						
PSA (French)	Car manufacturer	Project Manager (HR)	French	1 (2010)	Launch of operations in Russia	Customer
		CEO Russian Sub. (Citroën)	French	1 (2010)	Launch of operations in Russia	Expert/observer
		Site Director (Kaluga)	French	1 (2017)	Overview of situation of the automotive industry in Russia	Customer
Renault Group (French)	Car manufacturer	Cooperation Manager	French	2 (2014, 2017)	Launch of merger project (relations between Russians and Westerners)	Customer + Expert
		Purchaser Chemistry	Russian	1 (2015)	Overview of situation of the automotive industry in Russia	Customer
		Purchaser Engines	French	1 (2017)	Overview of situation of the automotive industry in Russia	Customer
		Purchasing Assistant	Russian	1 (2017)	Overview of situation of the automotive industry in Russia	Customer
Avtovaz (Russian)	Car manufacturer (Renault majority share)	CEO French sub.	Russian	1 (2015)	Launch of merger project (relations between Russians and Westerners)	Expert/observer
		Lobbying	Russian	1 (2015)	Launch of merger project (relations between Russians and Westerners)	Expert/observer
		Technical Cooperation	Russian	1 (2015)	Launch of merger project (relations between Russians and Westerners)	Expert/observer
		Financial Cooperation	Russian	1 (2015)	Launch of merger project (relations between Russians and Westerners)	Expert/observer
		Lawyer	Russian	1 (2015)	Launch of merger project (relations between Russians and Westerners)	Expert/observer
Volkswagen Russia (German)		Purchasing Director	German	1 (2014)	Overview of situation of the automotive industry in Russia	Customer
		Purchasing Chemicals	German	1 (2015)	Overview of situation of the automotive industry in Russia	Customer
Other						
Russia Data (German)	Consulting	Consultant	French/Russian	1 (2014)	Overview of situation of the automotive industry in Russia	Expert/observer
Segula (French)		Assistant	French	1 (2017)	Overview of situation of the automotive industry in Russia	Expert/observer
Total	–	**38 interviewees**	**16 Russian, 22 others**	**44 interviews**	–	–

Note: For the case of failure, names of companies involved have been changed.

used as a basis and a memento. However, we followed a general inductive approach (Blais and Martineau, 2007; Thomas, 2006) aimed at finding the most representative categories, i.e. in our case the factors liable of influencing the implantation process in Russia. The model resulting from our coding was done with NVivo (Mouricou and Garreau, 2017; Thomas, 2006). It will be presented and explained in the following chapter. Finally, the most recent interviews helped us understand how several factors had been overcome and which ones were persistent.

Tab. 2: Questionnaires

Questions concerning all respondents	1. Background (before Russia or the automotive industry) 2. Description of the first years of activities: what was easy, difficult, surprising? What are the main differences with other countries or other industries that you may know? 3. What are the local factors which tend to block the automotive industry's attempt to standardize processes: finance, socio-economic and legal constraints, other institutional features such as State intervention or corruption, suppliers or availability of products, the labour market of cultural differences? 4. Who are the stake-holders who play an important role? 5. Have you seen changes in recent years? Which ones? 6. Do Russian companies get the same level of quality than in Western Europe? How did they reach it? 7. On interpersonal relations, how do Russians and Western European work together? Do you have examples of difficulties, clashes or good cooperation? 8. Could you identify a couple of success factors that you can illustrate in the way to adapt to the new environment? For Western or Russian companies? For expatriates? For Russian managers? Does the fact of employing other Slavs / Post-socialists help? In which way? 9. If you look at your company, what adaptations were necessary to be able to work on the new environment (Russia or the automotive industry): working processes, strategy definition, management, etc. 10. What would you advise to a company coming to Russia? A Russian company starting business in the automotive industry?
More specific questions to understand the case of failure	1. Could you describe how the project was prepared? Who did it? When and how? 2. How was the entry-mode decided and how were partners contacted and selected? 3. What differentiated this project from the company former ventures? 4. What were the different phases of the project implementation in Russia? What were major surprises and/or discrepancies? 5. How did the actors react and adjust to unexpected situations? 6. What were the major difficulties that the company faced? 7. What would you do in a different way if you had to go to Russia now?

4 INFLUENCING FACTORS HINDERING INTEGRATION

In other papers (Montenero, 2017 and 2018), we have mentioned a certain number of factors which were liable of slowing down Russian integration to the automotive globalized system or to make it difficult. These have been organized into a macropolitical group (the impact of different types of markets as well as business cultural differences), as well as a micropolitical group (national cultural differences as well as behaviours to others). Details are provided in Tab. 3.

4.1 Factors of Influence at the Macropolitical Level

A first series of macropolitical factors impacting the integration of Russia to the globalized automotive market, are directly linked to the local specificity of the market, or 'local markets', as mentioned in the literature on know-how transfer (Edwards et al., 2007). Almost all interviewees pointed out the administrative and legal uncertainty, which implies either excessive burden or the difficulty to presage

any decisions taken by the authority or the government.[4] According to the level of experience of the country, informants' reactions range between an 'inability to decipher' to an 'extreme impatience'. On an every day's basis, the constraints of a market in "constant creation" (Safonova, 2013, p. 49) translate into a waste of time and higher costs, or even create rejection or fear ("We were desperately looking for benchmarks!"). It may also prevent Western companies from copy-pasting what exists in the West (i.e. more guards in general and lawyers in HR departments, or an impossibility to combine administrative and commercial functions).[5]

In addition, managers and experts had some difficulty projecting how the Russian automotive market was organized and how it would develop. For example, many imagined that sales would increase by 240% in 15 years and that local brands would disappear (Vahtra and Zashev, 2008). The reality has however shown that sales were very irregular and not comparable with the steady growth that car manufacturers had known in Central Europe. On top of this, as for the Russian makes, many had forgotten the "under-structure" inherited from the Soviet period, in terms of locations, infrastructures and working habits. This explains, for examples, why the different sites are scattered across a circular zone of 3000 km diameter. Finally, we should not forget the difficulty of obtaining several raw materials or parts in similar conditions as in the West because of scarce volume or high custom duties.[6]

We find other constraints in the job market which often keeps traces of the Soviet system (i.e. the importance of the 'buxgalter'[7] or 'chief accountant' in many traditional companies), and where several functions are hardly available, creating the need for MNCs to train people and be able to keep them. To this we can add the absence of reference for some functions common in Western Europe (i.e. Key Account Manager or controller) as well as the high complexity of HR legal obligation which makes the work of HR managers difficult to understand at the MNC' headquarters level.

Finally, the respondents also insisted on the constraints linked to the local financial market. If, in the first years of the period, many discovered that operating in Russia was 'expensive' ("Russia is not a low cot country"), the currency devaluation has improved the situation but increased exchange risks. This, added to the high occurrence of crises and to the cost of local operations, tends to lead to a minimalist approach of travelling and exchanges with the headquarters that hinders the development of cultural ownership. This last characteristic is even more significant because of the difficulty to find Western Europeans willing to expatriate to Russia.

A second series of macropolitical factors are directly linked to the differences between the culture inherent to the globalized automotive industry and the Russian business culture.

Different analyses have shown that automotive companies share a common culture characterized by values such as technical innovation (Beaume et al., 2009; Midler, 1998), quality and safety (Montenero, 2017), with the likelihood to think that it is superior to that of other industries. The way the globalized system is organized leads companies to give priority to standardized processes, transparency and trackability (Sturgeon et al., 2009). It should be noted that it follows a very specific scale of time which combines two opposite approaches: if it is essential to work with a long-time vision, often over 8 years, to ensure the car model's conception and lifespan, suppliers working on projects are expected to be very flexible and go beyond everything that can be

[4]This was for example the case with the laws on 'local content': not only our interviewees had some difficulty to know in what direction the government was doing, but it was not clear to them how the law was applied.

[5]This is for example of the pattern of a CEO who also have commercial responsibilities in Germany or France. In Russia, the necessity to be present on the sire would prevent many commercial trips.

[6]Here, we come across with the idea of scarcity or monopoly which plays an important role on a market like Russia (Montenero, 2017).

[7]The Chief Accountant is still considered, in the official nomenclature, a key function because it holds the purse strings.

programmed. This later situation denotes also a very particular customer-supplier relationship (Mukherji and Francis, 2008) dominated by OEMs, which seem to impose their vision and strategy to suppliers and require them to adopt a high level of transparency, in exchange for production volumes.

The Russian industrial culture, inherited from the Soviet time, is very different. Due to a strong centralization, the interest of customers was long not considered, with consequently little concern for quality issues and a scarce culture of performance (Grachev, 2009, p. 5). All respondents recognized a dramatic improvement, but they insisted on a general lack of constancy (suppliers, productions, employees). Moreover, if some functions such as HR are strongly regulated[8], this does not usually apply to technical and commercial activities. Instead, customer/suppliers' relations have often been based on power game as well as a lack of transparency (Braguinsky and Mityakov, 2015). But the major difference is to be found in the way Russian companies organize themselves to face market and financial constraints: they usually work with short-time customer orders that need to go throughout the complexity of common internal administrative rules (e.g. number of signatures). The ensuing lack of flexibility tends to make cooperation with Western companies very strenuous.

4.2 Factors of Influence at the Micropolitical Level

These factors are impacting the efficiency of the interpersonal relations between headquarters, subsidiaries and partners. They take on even more significance because of the high strain that they put upon the stability of partnerships.

A first series of micropolitical factors are the consequence of cultural differences between Western Europeans and Russians, i.e. the values (Hofstede, 2003) driving different ways of organizing operations, behaving and dealing with difficulty. Particularly, when Western European tend to rely essentially to processes, Russians value much more networking (Salmi and Heikkilä, 2015), and informal relations (Ledeneva, 2006). If this attitude may explain a lack of continuity on the Russian side, because actions may be more linked to the relation than to the process, it often leads Western European to disregard informal practices (Elenkov, 1997; Ledeneva, 2006, p. 101). A strong cultural opposition is also to be found in the concept of time. To fight against the uncertainty of the Russian market, local entrepreneurs tend to concentrate on short-time, adopting a 'limited time horizon' (Grachev, 2009, p. 6; Veiga et al., 1995, p. 22). When Western Europeans like to define detailed plans before any action, their Russian counterpart tend to adapt their reactions to the development of the context. As Michailova (2000, p. 102) wrote, "they tend to adapt to the environment rather than transforming it". The importance of this adaptability may even lead Russians to evolve their understanding of norms, standards or contracts according to the contexts, an attitude that often disturbs or worries Western Europeans. Finally, the Russian historical context may explain a higher awareness of the power relation between colleagues or partners. This may translate into a difficulty to communicate openly if the distribution of forces is uncertain, or into a strong respect of each one's zone of responsibility that may prevent actual cooperation. On the other hand, when they feel that power is on their side, Russians do not hesitate to impose the ideas and control its application. In an alliance, they expect the same from the partner on his/her areas of competence. The respondents have mentioned this different approach of exchanges, or of communication, as a reason for misunderstanding or even failure of collaboration.

A second series of micropolitical factors emerge from the confrontation of two different perceptions of the world as well as from contrasting attitudes to others. Firstly, Westerners, particularly in the context of the automotive

[8]The HR function requires keeping detailed records of the employee's background as well as of every action linked to every day's operations. To operate in the best possible way, the presence of lawyers or persons with juridical knowledge is necessary and mostly imposed by law.

Tab. 3: List of influencing factors derived from data analysis

Groupings	Influencing factors	Description
Macropolitical factors	Administrative and legal uncertainty	Excessive administrative burden, legal uncertainty, difficulty to copy-paste systems used in the EU.
	Russian automotive market	Irregularity of the market, constraints inherited from Soviet times (locations, infrastructures, habits, etc.). Difficulty to get parts and supplies necessary for the automotive production.
	Russian job market	Different functions or no references to European functions, complexity of HR legal obligations, difficulty to find people trained in necessary functions, etc.
	Russian financial market	Financial constraints of all types which make operations or stay in Russia (for expatriates) expensive.
	Different industrial cultures	The automotive culture, based on values such as technical innovation, quality and safety, relies on standardized processes, transparency and trackability with a very specific scale of time. It is opposed the traditional Russian industrial culture with little concern for quality and scarce culture of performance as well as little constancy, a strong lack of transparency and specific accounting habits developed to fight financial uncertainty and corruption.
Micropolitical factors	Cultural differences	An opposition between Westerners who rely mainly on processes and a very strong observance of time-keeping and Russians who give more importance to networking and informal relations. In the exchanges, misunderstanding is often do to a different awareness in power relations.
	Perception of the outside world and attitudes to others	Westerners tended to favour technical expertise and impose their models with little consideration for local specificity, increasing the fact that in post-socialist contexts relations with Russian partners tends to be unbalanced in favour of Westerners with little interest for the information provided by Russians. The impact of 'Russian strangeness' often leads Westerners to avoid immerging too deep into the local context and shift related issues to locals.

sector, tend to favour technical expertise and impose their own models (Soulsby and Clark, 2011, p. 308) with little consideration for local specificity. Moreover, it has been shown that in a post-socialist context, relations with Russian partners tended to be unbalanced (or 'asymmetric') in favour of the Western part (Child, 2000; Clark and Geppert, 2006), with often an underestimation of the value of the information possessed or provided by the Russian. The respondents also mentioned the possible impact of what they called the 'Russian strangeness'. The Russian language, the Cyrillic characters and the complexity of the signals coming from the market may prevent certain managers from finding reference points. This may also lead them to avoid immerging themselves too deep into the local context and shift local relations to their Russian employees or partners. Besides the fact that this behaviour forces them to rely only on intermediates, with the danger of biased interpretations, it pulls them away from direct contacts with major stake-holders, in a country where relations with the prime contractor is considered very important.

Finally, on the Russian side, the environment encourages micro-political behaviours to compensate for the weakness of institutions. The context of Russian business has often been described as an "institutional void" (Puffer et al., 2009) or "path dependence" (Schwartz and McCann, 2007), a situation encouraging power games as a way for the action to move forward in the direction wished.

5 HOW DID AUTOMOTIVE COMPANIES FACE THESE INFLUENCING FACTORS?

5.1 Transferring Technology and Ways of Working

Looking back at the first years of the integration, our respondents mentioned that the major worry concerned the technology, i.e. whether it would be possible to reach the same level of quality in Russia as in the EU, considering the habits inherited from the Soviet Union (factor 1.5), the backwardness of the country, as well as the difficulty to find the appropriate employees or to train them (factor 1.3). In all the cases covered, employees from other sites brought a large support to help Russian employees acquire the necessary knowledge. For technical transfers, expatriates were usually sent from other sites for periods between four months and one year. After the departure of foreign experts, locals were still connected to data banks gathering information on possible technical mistakes or malfunctions. Such an approach was made much easier through the high level of standardization of the industry: the equipment used in Russia was like that operated on other sites which had often experienced the same complications at one time or the other.

The difficulty of finding experienced workers was solved in different ways according to whether in green field (Volkswagen and PSA), or through an acquisition (Renault Avtovaz). In the first case, priority was given to young candidates with little or no experience of the function, but who commanded one or more foreign languages (Volkswagen, Faurecia, Lear). In this case, or in the case of Russian professionals who had to learn new processes (Renault Avtovaz, Faurecia), the transfer of know-how was facilitated through the participation to multinational working groups with employees of headquarters or of other sites (Romania in the case of Avtovaz).

The approach described above helped reduced the gap between different business cultures (factor 1.5). The implementation of production in Russia led also to the creation of a sub-group of Russian professionals who understand and command the rules developed by Western automotive companies and who are often used as middlemen between both industrial worlds. The interviews have shown that this sub-group consisted of Russians who had developed their talents with the aim of working mainly in Western companies, who rejected the idea of working in Russian companies and who felt often uncomfortable when faced to traditional local corporations. If the solution described above (i.e. creating a sub-group of assimilated locals) allowed to solve the misunderstanding due to cultural differences inside Western MNCs (factor 2.1), it could not apply to third parties, i.e. to the contacts with Russian potential suppliers, still very much marked by national culture.

Several MNCs used Central European nationals to facilitate the transfer of know-how. This is mainly the case of Volkswagen which facilitated the expatriation of Czech Skoda professionals. Interestingly, this solution did not always work, especially with people who were not willing to do it, or not well-prepared for this mission[9].

On top of this, larger groups (Volkswagen and Renault) offered managerial position to Russian professionals at their Global Headquarters to create a pool of persons used to the corporate culture, that they could send to Russia at a later period. Here, it was important to use different types of methods to ensure that they would eventually accept to work again in Russia[10].

[9]The mere fact of knowing Russian or being born in a Slavic country was not enough. Respondents had very mixed feelings about this solution but often forgot the necessity to train all people sent to Russia.

[10]In the case of Renault, Russian professionals took part to education programs while in France and signed a document obliging them to pay the money back in case they would not accept a position in Russia.

5.2 Facing Uncertainty

The same integration logic as above applies to a large part of the financial constraints (factor 1.4). For accounting and financial operations, Western companies are using standardized processes developed by the Headquarters, eliminating thus certain complex operations typical of the Russian administrative processes. They are also less affected by the uncertainty of the local financial environment because Russian activities are drowned out inside the total amount of international business. We also understand that expatriates working in Russia have shown a great deal of energy to explain the specificity of the market as well as the importance of approaching this market only on a long-term basis.

The analysis of results over time shows that corporations gradually changed their attitude towards the factors 'administrative and legal uncertainty' (1.1) and 'uncertainty of the Russian automotive markets' (1.2). They shifted closer to Russian behaviours: while a certain level of fatalism led them to create larger provisions for unexpected costs, they also recognized the importance of networking and lobbying with local and national authorities. Furthermore, several years of local experience have allowed financial experts to define more appropriate provisions.

Interestingly, the sanctions and the falling Rouble have accelerated the localization of supply to avoid risks linked to fluctuating exchange rates and difficulty of supply. OEMs and suppliers declared spending more time helping companies wishing to settle in Russia than in the first years of their presence. In the case of Renault, it was, for example, considered valuable to speculate on former Avtovaz suppliers.

Finally, the numerous, unpredictable cost factors and the erratic market developments have led Western corporations to set up a very strict cost policy in Russia, an approach close to crisis management. Costs have often been reduced to the minimum acceptable, for example by reducing or cancelling trips to the European headquarters or by limiting the use of in-house international consultants.

5.3 Impact of the Integration on the Local Business Environment

While the interviews show that the first divergence encountered within Western subsidiaries have diminished, the situation does not seem to have much improved in the case of Western – Russian partnerships. The interviewees mentioned a certain number of potential alliances which never started or collapsed after a few months for the reasons mentioned for factors 2.1 et 2.2, numerous developments like the failure that we analysed. Moreover, it was almost impossible to find cases of good cooperation between Western and Russian firms. Among the most common reason given for the difficulty to cooperate, we find different perceptions of time (i.e. short-term and long-term approaches), as well as the feeling, on Russian sides, that returns were not satisfactory.

Similarly, it has been rather difficult to find local Russian suppliers. Most interviewees employed in purchasing agree on the difficulty for local companies to adapt to the necessity to work in project mode over a very long time, whereas Russian companies tend to issue very precise orders for very short periods (6 months) to fight against exchange risks and corruption.

It is interesting to note that the four Russian suppliers interviewed have had different levels of success and were using different solutions to adapt to the request of Western automotive companies. A first company decided to stop the experience because the constraints were considered too high and the business not enough rewarding. In another case, the group recruited a Westerner who had no knowledge of Russia to manage the company. According to discussions, this was considered the best way to avoid deviations and to stay centred on the OEM's requests. In two other cases, the divisions working for OEM's had received a very high level of autonomy to reduce the burden of the traditional administrative obligations. In any case, despite repeated effort, it has been very difficult finding examples of successful local suppliers, i.e. companies which benefitted from the construction of a local automotive system in Russia.

6 DISCUSSION AND CONCLUSIONS

The research was designed to complement the general knowledge on the globalized automotive system. It has shown the ability of Russians to learn and implement the know-how transferred from Western MNCs. It shows also the importance of adapting the approach to deal with the specificity of the market.

Maybe the most interesting part was the fact that the encounter between the existing automotive system and the Russian market has allowed to understand better the distinctive features of the cooperation between OEMs and their suppliers. If the latter are expected to work in the long-term (periods over 5 years) and to reach very high levels of quality and trackability, they should also show a high flexibility when working on development or improvement projects: even after project start, objectives may be revised or even utterly redefined several times. This aspect is exerting a high constraint on smaller companies and it seems to be in open conflict with the usual operating mode of Russian corporations.

The interviews have also demonstrated the strength of the automotive system, which managed to expand to Russia in less than 5 years despite early difficulties, and which is today able to produce vehicles like what is manufactured in the rest of the world. If the globalization logic has imposed itself, the combination of the membership to different custom areas and the strong particularity of the Russian environment has created several constraints. First, the Soviet substratum has led production to be scattered over a larger area than in Europe or in North America. Regional productions (mainly through joint-projects) responding to different quality standards have been continued. Finally, we observed a limited interconnexion between international automotive corporations and local companies. The expansion of the globalized automotive system has created the superposition of a new strata of business which is still very much disconnected from other industrial activities.

Naturally, if the research has allowed to highlight several significant features and trends, the information was based on an inductive approach which did not require a precise representativity. Indeed, only three OEMs were interviewed. It would be interesting to contact more car manufacturers, particularly non-European companies to check whether their perception is comparable or whether they have another approach. Generally, it would be important to launch a new series of interviews to detect possible changes and update information on relations, either with subsidiaries of Western MNCs or with local suppliers.

As far as future developments are concerned, we noticed two areas which would need further research. First, the automotive industry, coming with its processes and habits, has led to the creation of a sub-group of people who belong to both business environments, which represent a "generic subculture across organization" (Schein, 1996). A deeper observation of the members of the group would help develop a better understanding of the Russian managerial structure. The literature has looked extensively at management practices with the aim of reaching performance (Fey and Björkman, 2001; Gurkov, 2014; Shekshnia, 1998). Recent research has also investigated the interconnexion between management practices developed in MNC subsidiaries and in local corporations (Shekshnia et al., 2017). However, several issues have been left open: Does the current evolution lead to local managers getting higher in the hierarchy, why and how? What is the influence of the employees and managers trained by Western MNCs on the way local corporations operate? How can the global automotive system participate to the internationalization of Russian managerial practices and operations?

Second, we have seen that most of the business generated has gone to subsidiaries of Western suppliers. The number of local companies cooperating with OEMs is still limited. Several scholars have pointed out the risk that local companies could be overwhelmed by Western competition (Dawar and Frost, 1999); others have demonstrated the little level of development in RandD in Central Europe (Pavlínek, 2008). However, we could not find enough data to estimate the importance of the issue. We

would recommend launching a comprehensive search with purchasing organizations to have a more precise view of the situation. It would also be interesting to investigate how the few local Russian suppliers have organized themselves and whether they have reached the level when they could become global.

Finally, we have not yet compared our findings with information on other expansion processes such as in Central Europe, China or South America. While information seems at first sight to be scarce, it would be important to search in the most recent literature and in local reviews.

Independently from the description of the automotive industry expansion to Russia, our research has also allowed us to design a first model describing the implantation process on a new market. As we have seen, while scholars working on export have defined a certain number of barriers to explain the level of efficiency of exporting corporations, there are still very few attempts to describe the factors impacting the first years of the establishment in a new country, i.e. what happens between plan definition and the actual start of activities. Of course, this model based on information collected in Russia, in the automotive industry, should still be validated and confirmed through other case studies and interviews. However, we see a clear managerial implication if this information is used to train and prepare managers prior to their participation to an international project.

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PRODUCTIVITY EFFECT OF ACCESSING THE EU: CASE OF BULGARIA AND ROMANIA

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ABSTRACT

The article deals with the impact that the EU enlargement had on productivity of firms in accessing countries, particularly Romania and Bulgaria that accessed EU in 2007. Microeconomic data suggest that the impact of accession itself can be negative in a short run in case of countries that received promised benefits in disintegrated manner and also experienced problems with obliging requirements of EU accession that resulted in negative measures taken. The negative short run effect can hinder the benefits in the euphoria following the accession and therefore could be considered as part of accession process in certain situations.

KEY WORDS

Bulgaria, Romania, EU, enlargement, accession

JEL CODES

F15, F43, O19

1 INTRODUCTION

Multiple factors from various disciplines constitute a decision about both enlargement of union and joining it. The same is true for the European Union and cases of Bulgaria and Romania, two countries that joined the EU in 2007.

Economic analysis is just one part in the spectrum of political decision making that takes into account political, legal, cultural, economic and other reasons. Economics comes into play in reasoning about the potential benefits and costs (as EU is particularly an economic area) prior to process of enlargement/joining, as well as ex post in evaluating the real effects the decision had.

In this article, I would like to argue the second case – what was the real benefit companies perceived in terms of their productivity when joined union of states that are mostly more developed that themselves. Because of availability of data and closeness of the event,

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I would take into account short-term benefits and costs mostly, bearing in mind that the evaluation cannot be done without considering the potential long-term as well as other-than-economic benefits and costs as well. Also, it is important to bear in mind that productivity effects are just part of those economic factors that can be used for evaluation.

The contribution of this article lies in the empirical evaluation of short-term economic benefits or costs of the integration of Bulgaria and Romania into the EU for companies in these accessing countries. This article does not, however, consider any long-term and/or other-than-economic benefits/costs that might be linked to the integration process as well.

Therefore the research question in this paper is: "what is the effect of accessing the EU for firms" and the hypothesis: "accessing the EU is positively correlated with productivity of companies" with alternative hypothesis of null or negative correlation.

The integration of markets – done by enlargement of the EU – should have positive effect by trade theory and should eventually catch richer states (Solow, 1956), but in later years this proven to be problematic according to number of assumptions e.g. endogenous technological progress (Romer, 1986 and 1990), human capital (Mankiw et al., 1992; Lucas, 1988), infrastructure (Barro, 1990) or divergence effect of infrastructure investment (Martin, 1998; Krugman, 1991).

Another of these assumptions, stressed by North (1990) is the relative similarity of countries with regards to institutional framework. The enlargement and accession are therefore not only economic (financial), but mostly political which, mostly in cases of central and eastern European countries, comprises also of adoption institutional structures of democratic, market-oriented western economies. These structures that can influence productivity of factors (Snowdon and Vane, 2005) are "rules of the game in a society, or more formally, are the humanly devised constraints that shape human interactions" (North, 1990, p. 3).

The enlargement of the EU does not consider only abolishment of formal trade barriers, but also accession to the internal market and free market of labour which are considered to be of larger effect than trade barriers themselves (Lejour et al., 2001). According to Lejour et al. (2001) new countries should benefit overall, but some sectors might shrink. The overall positive effect on economic growth (as well as convergence with old EU member states) is concluded by Rapacki and Próchniak (2008).

2 LITERATURE REVIEW

Situations of both countries were similar as talks of their accessions begin in early 90s by project "Returning to Europe" with some resistance as they didn't want to be isolated from Soviet Union. Western Europe included them in trade programs and other programs that transformed the economies and allowed them to received significant amount of EU money. During early 90s they signed Association Agreement (1992), EU became their largest trade partner and they submitted their applications in 1995 (Noutcheva and Bechev, 2008).

Opposite to other CEE countries, Bulgaria and Romania were not performing on measures they were needed to implement unless sanctioned by either the market of the EU (mostly by threat of postponing of cancelling the application). In Romania, problem was with political tests (it was elite-leaded country) and (the same as Bulgaria) economic tests (lack of structural reforms – privatization, cutting loss-making companies, problems with national currency), though political test in Bulgaria were alright (though Bulgaria experienced problems with inflation of 1997 and austerity measures imposed by IMF). Both countries experienced problems with implementation of measures as those were on paper but not put in practice – mainly in areas such as judiciary system, public administration and treatment of minorities – and therefore were not able to join 2004 enlargement (negotiations for their accession started 2 years later).

Date 2007 was set up at 2004 Brussells European Council (Noutcheva and Bechev, 2008).

Just a year before enlargement, Romania was considered provided better progress than Bulgaria, but in September 2006 European Commission recommended accession in January 2007 with condition of monitoring progress after accession (Noutcheva and Bechev, 2008).

Four years after accession both countries are still considered lagging due to corruption and judiciary. Bulgaria received significant funds as positive incentives and were threatened by their freeze (that was also done in practice) after 2007, but still had problems with government. In Bulgaria, the incentives of EU and domestic pressure are considered to help with corruption problem (Spendzharova and Vachudova, 2012).

Romania after 2007 responded only after pressure. It has still problems with corruption and even considered in 2010 that Romania breached its accession commitments. Some progress was done in judiciary area, but not enough. The problem, in contrast with Bulgaria, was that incentives were only external (by EU) but there was not enough domestic pressure and therefore results are mixed (Spendzharova and Vachudova, 2012).

Both countries were previously focused on agriculture and cheap labor and still as the GDP is growing, not so many benefits are visible – rising prices, loss of sovereignty, closure of inefficient industries (they also become net contributors to EU budget due to freezing of funds). The reforms are costly and difficult to achieve (Smilov, 2008 in Andreev, 2009) and they need another measures in order to be able to join Eurozone (Andreev, 2009).

3 METHODS AND DATA

Article uses econometric difference-in-differences methods with microeconomic data from Amadeus database (Bureau van Dijk, 2015) from A, B, C and G NACE Rev. 2 industries (those cover particularly wholesale, retail and manufacturing) observed over 10 years – 2004 to 2013 in both EU and non-EU countries in Europe. Monetary values are in thousands of EUR, unless stated otherwise and are merged with country data from Eurostat (Eurostat, 2015; unavailable data are imputed by the EU(28) average) for inflation (Producer prices NACE Rev. 2 Section C) and GDP.

The article estimates regression coefficients by OLS with panel data with fixed effects for companies and years and by multilevel estimations. The regression equation follows:

$$\begin{aligned} \mathrm{TFP}_{it} \quad = \quad & \alpha + \beta_1\, \mathrm{EU}_{it} + \beta_2\, \mathrm{Labour}_{it} + \\ & + \beta_3\, \mathrm{Capital}_{it} + \beta_4\, \mathrm{GDP}_{it} + \\ & + \sum_{n=5}^{8} \beta_n\, \mathrm{Control}_{nit} + \\ & + \delta_i + \rho_t + \varepsilon_{it}, \end{aligned} \tag{1}$$

where i is the number of the company, t is the time, EU is dummy indicating whether company is in country that belonged to the EU in a given year, Labour is the logarithm of the number of employees, Capital is the logarithm of denominated fixed assets, GDP is the logarithm of denominated GDP, Control is the vector of control variables from financial analysis (logarithms of liquidity and leverage) and α, δ, ρ and ε are constant, company fixed effects, time fixed effects and error term respectively.

After panel OLS estimation, models are estimated also by multilevel modelling in order to consider different trend in individual states. Multilevel models are estimated using MLwiN software (Leckie and Charlton, 2013) with constant and year specifies at firm level and constant at country level while all the other variables are left in a fixed part of the model. Due to computing difficulties, lagging, leading and trends are omitted. Standard errors are counted using sandwich estimates in fixed part of the model.

Outliers of dependant variable (1^{st} and 99^{th} percentile) are not considered in analysis. Logarithms by neglog transformation (Whittaker et al., 2005) are used.

Dependant variable (Goedhuys and Srholec, 2015) is:

$$\mathrm{TFP}_{it} = \left(\ln Y_{it} - \overline{\ln Y}\right) - \\ - \left(\sum_m \frac{1}{2}\left(\omega_{itm} + \overline{\omega_m}\right)\left(\ln I_{itm} - \overline{\ln I_m}\right)\right), \quad (2)$$

where i is the number of the company, t is time, m is input, Y is value added (or turnover), ω is the cost share of input, I is input and the above lined are means of the overall sample. The depreciation values are real data, not guesses as in Goedhuys and Srholec (2015). The indicator is resistant to outsourcing and substitution of labour and capital.

Other variables used are numbers of employees and amount of fixed capital, GDP and liquidity and leverage of company (current assets divided by current liabilities and shareholder funds divided by assets respectively). Rentabilities as dependant variables are counted using profit before tax divided by capital or labour.

4 RESULTS

The main variable of focus is of course the EU variable that indicates whether observation is in the EU. As one observation indicates one company in a given year, it specifies whether the company belonged to country that was member of EU in a given year.

Bulgaria, Romania and Croatia are the only countries in which the EU variable differs. In case of Bulgaria and Romania it equals to zero up to 2006 and one from 2007. In the case of Croatia, zero till 2012 and one for year 2013. This article concerns only Bulgaria and Romania as in the case of Croatia it is not possible to observe any post-treatment trend. The rest of CEE countries that were part of 2004 enlargement cannot be addressed as the dataset does not cover any information from year 2003 or earlier.

There is at least one meaningful control group that can be considered – countries that are not part of the EU and are from similar geographical area such Bulgaria and Romania. These countries are Serbia, Bosnia and Herzegovina, Montenegro, Albania, Macedonia and Moldova. Altogether with Bulgaria, Romania and Croatia they form the research sample.

In Tab. 1, several estimations are made. (1) Regression with only the EU variable, (2) with control variables, (3) with more control variables, (4) and (5) are with different clustering, (6) to (8) use different dependant variables, (9) includes also extreme values, (10) excludes imputed data for countries that did not have their macroeconomic data, (11) to (12) include lags and (13) include industry trends.

Given the fact that the entrance into the EU gives companies access to the Single Market it is expected that the productivity should rise as companies will have access to more opportunities as well as foreign companies will rise the competition in the two accessing countries. Compared to non-EU companies, the productivity should get higher.

It can be seen that generally, results suggest significant negative relationship between productivity of firms and the fact that their country accessed European Union. This fact can be influenced by number of factors which I try to elaborate on in Conclusion.

When looking on Tab. 1 where new and non-EU countries are compared, one can see that the impact is negative or insignificant. The interesting pattern can be seen after 1 or 2-year lagging. When applying 1-year lag, we can see that the impact is slightly significant or not significant at all. When applying both lags, significance changes from insignificant in year 0 through negative in year -1 to positive in year -2. From this we can tell that the benefit of accession will hardly be observed at once, but rather over longer period of time or with a lag.

Regarding to robustness of the results, one cannot be sure as most of the models reveal negative coefficient, but some attempts to test

Tab. 1: Estimation of TFP with sample of non-EU countries

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
Variables	**TFP Added Value**	**TFP Added Value**	**TFP Added Value**	**TFP Added Value**	**TFP Added Value**	**TFP Turnover**	**Rentability Capital**	**Rentability Labor**	**TFP Added Value**	**TFP Added Value**	**TFP Added Value**	**TFP Added Value**	**TFP Added Value**
EU	−0.0487***	−0.0270**	−0.0495***	−0.0495	−0.0495***	−0.0022	−4.537e+11	−0.5690	−0.0074	0.0008	−0.0202*	0.0087	−0.0682***
	(0.0106)	(0.0106)	(0.0103)	(0.0466)	(0.0155)	(0.0097)	(5.282e+11)	(0.3700)	(0.0186)	(0.0140)	(0.0120)	(0.0137)	(0.0106)
EU lag1											−0.0035	−0.0769***	
											(0.0129)	(0.0149)	
EU lag2												0.1300***	
												(0.0139)	
Labour		0.1470***	0.1130***	0.1130**	0.1130***	−0.0821***	1.120e+12***	−0.5360	0.0962***	0.0947***	0.0790***	0.0827***	0.1190***
		(0.0070)	(0.0068)	(0.0392)	(0.0288)	(0.0259)	(2.353e+11)	(0.3270)	(0.0112)	(0.0068)	(0.0079)	(0.0096)	(0.0068)
Capital		0.0724***	−0.0068**	−0.0068	−0.0068	0.0209***	−5.971e+12***	0.0757	−0.0506***	−0.0134***	−0.0005	0.00053	−0.0134***
		(0.0035)	(0.0034)	(0.0243)	(0.0191)	(0.0049)	(7.596e+11)	(0.1150)	(0.0119)	(0.0035)	(0.0041)	(0.0051)	(0.0034)
GDP		0.1780***	0.0279	0.0279	0.0279	−0.0553***	−4.452e+11	−0.9300***	−0.3970***	0.1170***	0.0382*	0.0742***	0.0300
		(0.0190)	(0.0186)	(0.0546)	(0.0230)	(0.0154)	(9.462e+11)	(0.0589)	(0.0669)	(0.0201)	(0.0201)	(0.0212)	(0.0187)
Liquidity			0.0612***	0.0612	0.0612***	0.0227***	−3.522e+12***	0.6730***	0.0909***	0.0577***	0.0732***	0.0848***	0.0604***
			(0.0052)	(0.0477)	(0.0104)	(0.0060)	(3.517e+11)	(0.0590)	(0.0090)	(0.0053)	(0.0059)	(0.0071)	(0.0052)
Leverage			1.3990***	1.3990***	1.3990***	0.2540***	−4.919e+13***	3.4250***	1.7360***	1.3900***	1.3900***	1.3690***	1.4070***
			(0.0212)	(0.0781)	(0.1900)	(0.0268)	(5.523e+12)	(0.7530)	(0.0307)	(0.0213)	(0.0244)	(0.0301)	(0.0213)
Constant	−2.5620***	−4.6500***	−3.3030***	−3.3030***	−3.3030***	−1.2750***	1.799e+13**	11.4100***	0.3490	−3.9630***	−3.2520***	−3.4310***	−3.5370***
	(0.0057)	(0.1590)	(0.1550)	(0.5510)	(0.2620)	(0.1140)	(7.433e+12)	(0.9520)	(0.5270)	(0.1670)	(0.1710)	(0.1850)	(0.1590)
Observations	839,278	839,280	835,399	835,399	835,399	1,900,902	1,903,746	1,903,462	852,465	790,491	680,532	531,708	835,399
R-squared	0.024	0.029	0.088	0.088	0.088	0.062	0.009	0.045	0.003	0.090	0.095	0.097	0.094
Number of company	199,780	199,780	199,084	199,084	199,084	380,261	377,162	381,393	200,119	192,524	176,500	149,705	199,084
Company FE	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes
Year FE	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes
Cluster	Company	Company	Company	Country	Industry	Industry	Industry	Industry	Company	Company	Company	Company	Company
Outliers	no	no	no	no	no	no	no	no	yes	no	no	no	no
Sample	New and No EU	New and No EU	New and No EU	New and No EU	New and No EU	New and No EU	New and No EU	New and No EU	New and No EU	New and No EU	New and No EU	New and No EU	New and No EU

Notes: Cluster standard errors in parentheses, *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$, EU is the EU accession estimator, Labour is the logarithm of number of employees, Capital is the logarithm of denominated fixed assets, GDP is the logarithm of denominated GDP in Euro, Liquidity and Leverage are logarithms of financial ratios explained in Methods, all with use of denominated values. Other interaction terms and dummies for obtaining the treatment effect are included but not listed. Values used are in thousands of EUR if not stated otherwise. Bulgaria, Romania, Croatia, Bosnia and Herzegovina, Serbia, Albania, Montenegro, Moldova and Macedonia and included.

the robustness showed insignificant relation – e.g. all alternative dependent variables (6–8) or omission of manual changes in the dataset – outliers elimination (9) and macro data imputation (10).

Models are also estimated using multilevel models where companies are nested within countries and therefore it is possible to control for development in particular country (both treatment and control). Results of country level can be seen in the column of particular model, results of company level are in the near left column.

When multilevel models are used, one can see that effect is stronger in magnitude as the coefficients are considerably larger. It might be the case that as the situation of Romania and Bulgaria was not perfect when they accessed the EU (as shown earlier) that the costs compared to non-accessing countries were larger.

Regarding robustness, these models are actually more straightforward than previous ones as only one model (6) is left with insignificant sign – the rest, including alternative dependent variables (7–8) and manual changes (9–10) are significant and negative. Bearing in mind shortcomings of both models and results obtained in Tab. 1, one can observe more evidence in favor of negative impact hypothesis.

5 DISCUSSION AND CONCLUSIONS

The article focuses on the effect of country's accession into the EU and the impact of this action on economic agents – firms. The theory suggests that in ideal sense, the act of accession itself should be regard as productivity enhancing.

Though, the situation of Bulgaria and Romania (and possible other EU countries as well) is different. Results suggest that there is negative or insignificant relationship with productivity of firms in accessing countries. Reasons and possible interpretations of the results might be two-fold.

First, the accession process itself is not black or white and is definitely not one-step process. The accession takes several years (or even almost two decades as in case of these countries) during which the countries are gradually involved in several activities and therefore the benefits could be observable during longer time period. This conclusion is also accompanied by the lag-implied estimation that show changing significance and direction depending on the year.

Second, in this particular case, the accession did not go as planned for both countries. The planned accession in 2004 was postponed till 2007 and even in that year there were several measures needed to be taken to induce both countries to proceed with requirements of accession (including freezing of funds).

Both of these might be the reasons of the other-than-expected direction of effect of entrance into the EU. This is not to suggest that the EU accession does not have benefits as such, but more to point to the fact that perceived long-term benefits might be balanced or overshadowed by short term costs (in this case in terms of productivity).

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Tab. 2: Multilevel estimation of TFP with sample of non-EU countries

	(1)		(2)		(3)		(6)		(7)		(8)		(9)		(10)	
Variables	**TFP Added Value**		**TFP Added Value**		**TFP Added Value**		**TFP Turnover**		**Rentability Capital**		**Rentability Labor**		**TFP Added Value**		**TFP Added Value**	
EU	−0.2600***		−0.2260***		−0.1950***		−0.0868		−2.150e+12***		−0.928***		−0.2310***		−0.2120***	
	(0.0318)		(0.0429)		(0.0100)		(0.0695)		(5.242e+11)		(0.327)		(0.0574)		(0.0245)	
Labour			0.0613***		0.0408		−0.0285		1.754e+12***		−0.865***		0.0079		0.0328	
			(0.0218)		(0.0259)		(0.0327)		(3.254e+11)		(0.217)		(0.0443)		(0.0276)	
Capital			0.1240***		0.0542***		0.1200***		−3.549e+12***		0.442***		−0.0291		0.0595***	
			(0.0173)		(0.0137)		(0.0232)		(3.606e+11)		(0.109)		(0.0292)		(0.0144)	
GDP			0.1250		−0.1100		0.0550*		−2.012e+11		−0.499**		−0.5100***		−0.1340	
			(0.1010)		(0.0948)		(0.0329)		(3.566e+11)		(0.243)		(0.0951)		(0.1070)	
Liquidity					0.0341		−0.0025		−4.354e+12***		1.265***		0.0293		0.0262	
					(0.0439)		(0.0242)		(5.316e+11)		(0.291)		(0.0824)		(0.0429)	
Leverage					1.6630***		0.4840***		4.504e+13***		4.672***		1.9790***		1.6630***	
					(0.0173)		(0.0212)		(5.910e+12)		(0.518)		(0.6360)		(0.0169)	
Cons	−2.5630***		−4.3360***		−2.4390***		−2.7230***		7.014e+12*		5.542*		1.2420		−2.2150**	
	(0.0984)		(0.7950)		(0.9250)		(0.3210)		(3.763e+12)		(3.013)		(1.0020)		(1.0030)	
Cons (r.p.)	0.0295	−330.1000***	0.0403	−302.8000***	0.0196	−243.9000***	0.0378*	−6.9370***	1.474e+25	−8.971e+29	0.481*	5.3290***	0.1110	2.5150***	0.0251	−248.2000***
	(0.0209)	(2.5320)	(0.0283)	(2.4380)	(0.0139)	(2.0800)	(0.0219)	(0.8620)	(0.000)	(0.000)	(0.286)	(76.7400)	(0.1130)	(0.0057)	(0.0205)	(2.0850)
Cov Cons (r.p.)		0.0827***		0.0759***		0.0612***		0.0020***		2.303e+26		−1.3010***		0.0000		0.0622***
		(0.0006)		(0.0006)		(0.0005)		(0.0002)		(0.000)		(0.0191)		(0.0000)		(0.0005)
Observations	839,278		839,280		835,399		1,900,902		1,903,746		1,903,462		852,465		790,491	
Number of groups	5		5		5		7		7		7		5		3	
Company FE	yes		yes		yes		yes		yes		yes		yes		yes	
Year FE	yes		yes		yes		yes		yes		yes		yes		yes	
Cluster	Sandwich		Sandwich		Sandwich		Sandwich		Sandwich		Sandwich		Sandwich		Sandwich	
Outliers	no		no		no		no		no		no		yes		no	
Sample	New and No EU		New and No EU		New and No EU		New and No EU		New and No EU		New and No EU		New and No EU		New and No EU	

Notes: Cluster standard errors in parentheses, *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$, EU is the EU accession estimator, Labour is the logarithm of number of employees, Capital is the logarithm of denominated fixed assets, GDP is the logarithm of denominated GDP in Euro, Liquidity and Leverage are logarithms of financial ratios explained in Methods, all with use of denominated values. Cons is constant from the fixed part, Cons (r.p.) is constant from random part and Cov Cons (r.p.) is covariation of constant and year variable. Other interaction terms and dummies for obtaining the treatment effect are included but not listed. Values used are in thousands of EUR if not stated otherwise. Bulgaria, Romania, Croatia, Bosnia and Herzegovina, Serbia, Albania, Montenegro, Moldova and Macedonia and included.

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RESISTANCE TO CHANGE IN PUBLIC ORGANIZATION: REASONS AND HOW TO OVERCOME IT

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ABSTRACT

The objective behind this paper is to explore the main sources of resistance to change and how that resistance effects the whole organization. Employees' duty and overseeing resistance effectively are basic essentials for forceful change management. This paper implements qualitative approach to observe the employees' resistance to change in one of the government organization working under Ministry of Industries of Pakistan. This is a qualitative study in which sample of 10 interviews have been conducted from the managers, deputy managers and executives working in this government organization. As indicated by Kurt Lewin's force field analysis this study shows, a manager looking for to "push" the procedure of organizational change must put all push to decrease the impact of preventing forces while expanding the impact of main driving forces and along these lines work with resistance of employees towards change.

KEY WORDS

resistance, organizational change, qualitative, employees

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1 INTRODUCTION

The modern age of development of mankind during an era when changes in all circles of life are quickened, the requirement for fast adjustment and most extreme expectation of future changes emerges. Forms happen so quickly that even the extreme advancements are such for a brief timeframe. While actualizing focused methodologies, organizations are continually compelled to screen the progressions occurring available and must watch activities of rivals all together not to linger behind in the transient and be in front of everybody in the long haul. Steady changes have turned into a target need for everybody, although

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for the individuals who would prefer not to change.

In this way, Pakistani organizations must utilize the world experience of progress management in their practices and in everyday operations. Residential organizations need to reexamine their financial, organizational, social and mental parts of management and business.

Organizations basically work as open frameworks and are liable to outer impact, so they have to change and adjust to the economic situations. The pre-requisites to change originate from inside the organization as necessities and desires of employees and from outside as expanded rivalry, mechanical advancements, new enactment and the weight of social components.

It is also possible that the organization neglects to roll out the fundamental improvements, terms of vital changes. For instance, in the most recent decade of the 20th century from the rundown of the main twenty organizations in Europe inside five years fifteen organizations vanished (got to be out of business sector). This was the outcome that the organization did not foresee and did not wish to notice changes in the outer environment. Notwithstanding, there are likewise different numbers expressing that 50 to 70% of all hierarchical changes started in 1980–1990 neglected to accomplish its objectives. As indicated by appraisals of M. Hammer, American master on rebuilding organizations, out of 32 billion dollars spent by organizations on these procedures, 20 billion have been squandered (Shermet, 2010). At the end of the day, not each change prompts a positive result. All things considered, there is no option for change. Regardless of the high risk of disappointment, organizations need to continually search for, execute and oversee change.

There may be many reasons of showing resistance like due to fear of insecurity, lack of freedom or being afraid of unknown or having less knowledge. The management should understand the possible reasons of such resistance while implementing change processes in the organization (Asgarkhani and Patterson, 2012). Such type of resistance can be reduced by developing proper communication channels among the organization (Yılmaz and Kılıçoğlu, 2013).

Employees' perspective and their connection to organizational changes assume a characterizing part and significance in the changing occurring in the organization. It is known, that a critical test to the usage of organizational changes or projects of progress is resistance to change. It is the restriction to any progressions and changes in organizations showed by workers in this or other structure. It is imperative to say that individuals oppose not just awful or destructive, in their perspective, changes additionally to those that clearly appear to be sure and not harming. Along these lines, workers may have numerous reasons and intentions not acknowledge changes and oppose them.

Resistance from change has many faces for example absent from duty, failure to complete assignments on time because employee don't want to do, or damaging new machines deliberately so that new things will not work properly (Carr and Brower, 2000).

In this way, it is intelligent to consider organizational changes through the model (Lewin, 1951; Yılmaz and Kılıçoğlu, 2013). Its base is in the position that the comprehension of the progressions includes the mindfulness and the idea of security. In his model, Lewin offered conversation starters like what forces lead to the foundation and support of a parity or what sort of components in the organization that "pushes" to changes.

Thusly, Levin called developments towards change as "driving forces" and blocking developments towards accomplishment of an objective as "hindering forces" (Lewin, 1951). If there should arise an occurrence of fairness of these forces – the organization can hold a steady position.

In this manner, usage of changes at an organization includes either an expansion in the estimation of main thrusts, or a decline in constraining upsetting strengths or some mix of collaborations that prompt the infringement of their equalization.

According to Lewin (1951) managers are looking to "push" the procedure of organizational change must put all endeavors to lessen the impact of hindering forces while expanding the impact of driving forces and along

these lines work with resistance of employees towards change. He expressed that resistance to change was the norm of the organization, subsequently working with faculty, clarifying them the change methods and new standards was essential (Wanberg and Banas, 2000).

It is important to say that Kurt Lewin's field theory was the beginning stage in the utilization of the term resistance to change in the 1950s and 1960s (Lewin, 1951). From that point forward resistance to change was considered as a component of progress procedure in organizations and was analyzed by hierarchical advancement and management researchers. Resistance is characterized as limiting strengths that restrict any adjustments in organizations (Lewin, 1951).

2 RESEARCH OBJECTIVES

The purpose of this study is to examine why employees shows resistance towards change, what type of changes were seen in employees behavior while implementing change in the organization, what are the main causes of such behavior and what steps should organization take to reduce the effect of such resistance. This study enquires about the employee's behavior during implementation and even planning the anything new or changes in the organization which effects the whole organization and causes resistance in implementing change in the organization.

3 LITERATURE REVIEW

Resistance is something that influences the change process by deferring or backing off its starting, impeding or preventing its execution, and expanding its costs (Ansoff, 1991). What's more, it can be any behavior that tries to keep the present state of affairs (Maurer, 1996). Resistance is not negative ideas all in all, since change is not naturally helpful for organizations (Waddell and Sohal, 1998).

Organizations face resistance in many forms such as employees strikes, arrogant behavior or by harming new technologies or machineries (Fleming and Spicer, 2003). Resistance of employees is sometimes created because of inefficient management or because of few managers. If management did not use appropriate behavior with their employees, it may create resistance to change (Fleming and Spicer, 2003). Sometimes organizational factors also become a cause of resistance and ultimate failure of new techniques and organization too (Mlay et al., 2013).

Organizations developments in an organization are focused and requesting as much organization alongside the difficulties and resistance they confronted in the prologue to advancement. A few researchers further remarked that bleeding edge employees known as interfunctional in executing advancement in the management industry (Wilson et al., 2012). Seemingly it is unpredictable on the grounds that management development reasons, outstanding effect on employee's parts requiring changes in behavior which suits the consumer's tendencies.

Resistance affects the investment at which an improvement is acquired. It influences the emotions and conclusions of workers in any respect phases of the reception technique. It sways effectiveness, charming, and organizations. Impenetrability to change can heighten if individuals sense that they have been ensured in an advancement of adjustments that have had inadequate support to pick up the predicted results. In ultra-cutting edge turbulent times considering headway is a forceful need in light of reality that this wonder contributes enormous impact on organization and organizations. Thusly, to make the improvement unmistakable, the management needs to set a stage to

fit the changes inside the earth all together that the management can hold next to each other on advancement and the resistance with a higher hand.

Advancement and new pursuit improvement may begin as an arranged choice of the most astounding administration or it might include pretty much mid-level individuals as they need to take the activity to take care of an issue in new courses or to build up a proposition for change. Very fruitful organizations permit both, and even authority top administration choices to embrace an improvement exertion advantage from the unconstrained innovativeness of those underneath (Schuler and Jackson, 1987).

Kurt Lewin's force field analysis model, a manager seeking to "push" the process of organizational change must put all effort to reduce the effect of hindering forces while increasing the effect of driving forces and this way work with resistance of employees towards change (Kunanbayeva and Kenzhegaranova, 2013). Dean and Linda Anderson resent two diverse methodologies towards change in which one differences the other. Both methodologies have at last extensive effects and pioneers and their own particular achievements (Anderson and Anderson, 2002).

Change procedure can be sorted from multiple points of view that incorporate formative changes, transitional changes and transformational changes. Formative changes are either arranged or developing. It upgrades or redresses the current perspectives concentrating on the change of an expertise or procedure. Transitional changes are done to get the fancied state which might be not quite the same as the current one. Such changes are arranged or might be radical. Transformational changes are radical in nature. It requires a movement in presumptions and results as far as structure, procedures, society and technique in an organization (Anderson and Anderson, 2010).

The organization cannot achieve their strategic goals unless their employees are convinced (Schraeder, 2009). The organization should have all information about all the consequences and causes of resistance while implementing change (Asgarkhani and Patterson, 2012). Previous studies also show that resistance to change is also dependent upon the emotions and irrational ideas of the employees are positively dependent upon the behavior towards change implementation. It also determines the intervention strategy for the management to reduce the employee's resistances towards change (Bovey and Hede, 2001). Individuals do opposes to change as they feel that it will make them lose their worth or force. People resist not only to bad or harmful but it also resist to those changes that seem positive and not damaging as employees may have many reasons and motives not to accept changes and resist them. Therefore implementation of change management practices involves either an increase in the value of driving forces, or a decrease in limiting hindering forces or some combination of interactions that lead to the violation of balance in any organization. Resistance to transform from the workers of an organization can turn into an obstruction to flourishing (Toosy, 2006).

For that the change management process must be comprehended and afterward the explanations behind resistance to change should be figured it out. Once the reasons are known then we can take out the main driver of the resistance.

Much of the literature focuses on the process of change management. Particularly in private sector of developing countries like in Pakistan are largely under researched area. In past studies, performance of individual organizations is observed by researchers which do not cover all population. This study will be helpful for efficient allocation of the change management practices in the organizations to get better outcomes from implementation of changes at an organization level that would involves either an increase in the value of driving forces, or a decrease in limiting hindering forces or some combination of interactions that lead to the violation of balance. In spite of the plenitude of studies on resistance to change, there are very few studies focused on the management practices of government organizations especially when it comes to resistance to change (Hornstein, 2010).

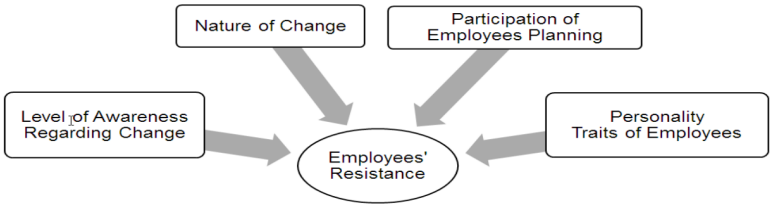

Fig. 1: Themes

The main focus of this study is to explore why employees shows resistance whenever something new is going to be happened in the government organizations and how the organization can reduces such resistance; by understanding employees' expectations and how these expectations can help organization to improve efficiency of the man power. Based on review of literature relationships were developed in this study showing factors that were important for the employees which would increase their loyalty towards organization.

Following propositions where developed on the basis of the previous literature:

1. Level of awareness regarding change is linked with the resistance of employees towards change.
2. Nature of change which is going is associated with resistance of employees towards change.
3. Employees' participation in change planning process is associated with the resistance of employees towards change.
4. Personality traits of the employees is linked with the resistance of employees towards change.

4 RESEARCH DESIGN

4.1 Philosophy of Research

As this paper was on the subjective matter of the topic, research paradigm selected was constructivist as constructivism accepts that the importance of encounters and occasions are built by people, and along these lines individuals build the substances in which they take part (Charmaz, 2006). This study is also based on inductive reasoning approach as this study was concerned with the observation of the employees' behavior when something new is implemented in the government organization (Creswell, 2012).

4.2 Population and Sample Size

Target population for this paper was the employees in government organization. The perfect sample size was under 10 individuals. According to experts of qualitative research, it was suggested that the number of participants may vary from 5 to 50 in qualitative studies (Dworkin, 2012). For this situation, the aggregate participants who report are twelve and ten are considered to be included in this paper.

4.3 Sampling Technique

We have used convenience sampling technique (Bryman, 2004) in this study as the cost and time required completing this sampling was less. It allows you to complete the sample size in a lesser time and gather vital information relating to the participant views. This procedure may yield data poor cases since cases are picked basically in light of the fact that they are anything but difficult to get to, instead of on a particular methodology/basis. Examining colleagues, relatives or neighbors just in light of the fact that they are "there" is a case of comfort inspecting (Creswell, 1998).

4.4 Data Collection Tool

Creswell (2012) states that the essential strategy for data collection is one-to-one interview developed in the basis of previous observations.

Permission was taken from the participants to record their interviews that take approximately 45 to 60 minutes. Notes were also taken to record their gestures during interview.

Semi-structured interviews will be performing among employees of Government organization at all the hierarchical levels. The questionnaire was adopted from Kunanbayeva and Kenzhegaranova (2013). Observation would be used as an additional tool to get a better understanding of the answers. Independence between the participants and the researcher will scrupulously respect. An interview guide provided a reliable, comparable qualitative database for the research. The information sought in this study had the potential to be intricate and multi-factorial; therefore, the semi-structured interview allowed the participants to supply some direction with open questions and also allowed for the measurement of specific dimensions through indicators.

5 DATA ANALYSIS

All the ten interviews were transcribed after all the data collection to get accurate and exact views of all the participants. Oliver et al. (2005) stated that "transcription is a technique of data presentation, and this representation can affect how data are conceptualized". All the transcriptions were then thematically analyzed through latest version of the NVivo software that is QSR NVivo 11-plus.

"The searching tools in NVivo allow the researcher to interrogate her or his data at a particular level. This can, in turn, improve the rigor of the analysis process by validating (or not) some of the researcher's own impressions of the data." (Welsh, 2002)

6 ETHICAL CONSIDERATIONS

Being a researcher it is very important to give respect to all the participants and keep them aware about all the pros and cons of the study and their participation (Guba and Lincoln, 1994). Here in this section key ethical issue of study discussed below.

6.1 Confidentiality and Anonymity

Primary consideration was given to all the participant's confidentiality and anonymity. It was assured to all the managers and executives that all personal information would not be disclosing to anyone and will only be seen by the researcher and the supervisor of this study.

6.2 Ownership and Interpretation

Ownership and interpretation were considered to be very important while dealing with ethical issues on the qualitative study (Creswell, 2012). Because ownerships means who owns data and interpretation means who owns the interpretations. Being a researcher it is the primary responsibility of the researcher to be honest with the data and with the participants and will not share with any other person.

6.3 Withdrawal from participating in the study

All the participants were given full right to withdraw from the interview whenever he/she wants and in case of withdrawal of any individual, after his/her withdrawal, all the data will be destroyed.

7 QUALITATIVE DATA ANALYSIS

Five themes have been identified after the thematic analysis through NVivo software. These themes were named as Employees' response; Level of awareness; Participation of employees in planning and implementing change; Personality towards; and Planned and purposeful change. These themes has been reported in the Tab. 1.

Tab. 1 clearly show all the themes emerged after the thematic analysis and their frequencies. According to this, the theme with the highest frequency is the last one which is Planned and Purposeful change with frequency of 48, which shows that participants shows more resistance when there were not a purposeful change. Because if they see that organization is implementing something new which did not have a clear purpose or it was not a planned change, employees show more resistance.

The second theme with the highest frequency is Employees response after the thematic analysis which is 43 shows that all the happenings will ultimately affect the employees' response. If anything new is going to implement in the organization it will create resistance by employees. Employees' response includes their behavior towards change at every step of change formulation and implementation in the organization.

The third highest frequency is of two themes which are of participation of employees in planning of change and personality traits if employees. The frequency of these two themes is 22, which indicates that participation of employees in planning and implementing change and personality traits of employees are equally important and can help to reduce the resistance by employees towards change.

The theme with the lowest frequency is of level of awareness that is Level of awareness have frequency of 18, which indicates that level of awareness of change among employees is more or less important to create resistance to change.

8 INTERPRETATION OF THEMES

8.1 Planned & Purposeful Change

The most highlighted theme among all the interviews is planned and purposeful change. It shows that if management is going to do any change in the organization, it should be purposeful and planned too; otherwise spontaneous changes may create ambiguity and fear among employees. And in this case they will definitely show resistance to this change, a mentioned by one of the participant:

- *"Some things should be changed after sometime. But these changes should be for the betterment of company and for the welfare of employees otherwise employees will not support any such change."* (Participant 5)
- *"If I feel new things can create risk for my job security, I will not support such change."* (Participant 9)
- *"... Favorable changes are accepted open handedly."* (Participant 2)
- *"... but it should be positive change which increase productivity of organization."* (Participant 8)

If any of the employees perceived that new things can harm them, they will not support the change and if employees perceived that new things will teach them something new they will support it.

8.2 Employees Response

The second most reported theme is employee response, and it indicates that anything happen in the organization will affect the employees' response in a positive or negative way depending upon the nature of the change and what are the perceptions of this change in the minds of the employees. It is noteworthy

Tab. 1: Qualitative Data Analysis

Participants	A: Employees' Responses	B: Level of Awareness	C: Participation of Employees	D: Personality Traits towards Change	E: Planned and Purposeful Change
Participant 1	7	3	2	4	6
Participant 2	5	2	1	3	7
Participant 3	3	2	3	1	6
Participant 4	5	1	2	3	7
Participant 5	3	1	4	3	6
Participant 6	3	1	2	2	3
Participant 7	3	2	1	1	4
Participant 8	3	2	2	2	4
Participant 9	4	3	4	1	3
Participant 10	7	1	1	2	2
Total	**43**	**18**	**22**	**22**	**48**

that it is also important that how management communicate about change with the employees; if the management communicates properly it will definitely give positive feedback from the employees.

As referred by participants:

- *"Before implementing any change, manager must ensure that all employees are ready for change. It can be done their involvement … then they train their department subordinates and take feedback about that change … if feedback is positive then it can be assumed that nobody is disagree with change."* (Participant 8)
- *"Sometimes new policies are just made and imposed on us, without any prior communication will create a feeling of irritating means we are the one who will work on all these new thing and we remain ignorant how we can support or be a part of that change."* (Participant 10)
- *"If my supervisor intimate me about new things it will make me easy to understand and cope with that change otherwise it will become very difficult for me to handle things … sometimes make very weird situation … very complex … obviously then I resist to it."* (Participant 6)

Employees felt satisfied and show positive response to change when they are previously informed about that change and their views and feedback were also considered while implementing that change.

8.3 Personality Traits of the Employees

The third highest frequency theme is Personality traits of the employees, which indicates that if someone is naturally very active and adventurous, that one individual will support new things and if someone is very reluctant, he/she will hesitate to try anything new.

As referred by participants:

- *"And be optimistic even though I might not be currently happy. I will learn new skills and also look for ways to help others cope with change."* (Participant 6)
- *"Yes because I m very much optimistic person I want change in anything which is associated with myself."* (Employee 2)
- *"Yes I support to change because without change businesses would likely lose their competitive edge and fail to meet the needs of customers … and as a employee new and better change help in completing projects properly."* (Employee 8)

The above statements clearly shows response towards change is also dependent upon the personality traits of the employees. If someone is enthusiastic, he will support change, and take new things as a challenge. If someone is very pessimist, he will show resistance towards change and may create hurdle while implementing change in the organization.

8.4 Participation of Employees in Planning and Implementing Stages of Change

This theme is also important as if the management involve employees in the decision making process in the organization, employees feel confident and it will also increase loyalty and honesty of employees with the organization and with management as well.

As referred by participants:

- *"Only selective employees took part in decision making process which sometime makes other employees felt inferior."* (Participant 5)
- *"Management show biasness in this regard…they take advises of just their of owned closed relative employees which make other employees ignorant."* (Participant 6)
- *"There always remain conflict of ideas among employees and management, as management just think about their self interest not what is better for the employees."* (Participant 8)

It is obvious if someone will not be asked about their opinion he/she will feel inferior and will not support anything in the organization. It is the responsibility of the management of organization to make all employees participate in all the decision making process. It will allow all the employees to show their creativity and be confident and make loyal to the organization.

8.5 Level of Awareness

The lowest frequency theme is Level of awareness, means all employees have well awareness about the change going to implement in the organization. Mostly participants indicates that it will become easier for them if they are well aware about the new things, otherwise more or less it will become the reason for resistance against change.

As referred by participants:

- *"No, mostly changes are not properly aware to all employees."* (Participant 1)
- *"Only top management is aware about the new things, whether changes are minor or major, lower or middle layer managers are not are of these things … which may sometimes create resistance as employees feel ignorant by the management."* (Participant 3)

If employees are not aware of things happening in the organization it will ultimately create feeling of ignorant or can also affect the self esteem of the employees.

Fig. 2 shows the themes emerged after the thematic analysis through NVivo software. It shows that Employees response towards change theme is associated with four other themes which are Level of awareness, Planned and purposeful change, personality traits of the employees and Participation of employees in planning and implementing change. Level of awareness theme is linked with employees' response theme. Planned and purposeful change theme is linked with employees' response theme, participation of employees in planning and implementing change them and Personality traits of the employees theme. Participation of employees in planning and implementing change is linked with employees' response theme, Personality traits of the employees theme and level of awareness theme. Personality traits of the employee theme is linked with employees' response theme, Participation of employees in planning and implementing change and Planned and purposeful change theme.

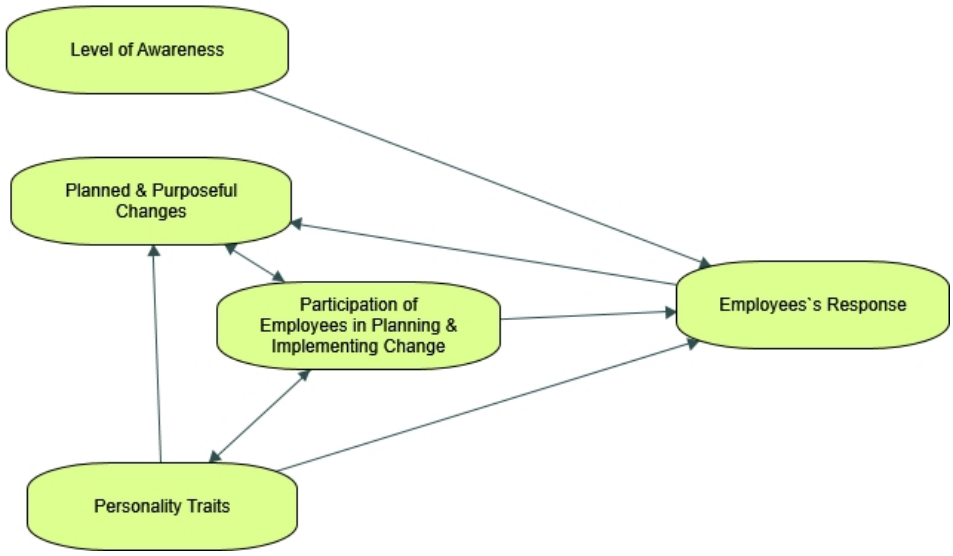

Fig. 2: Concept Map

9 DISCUSSION

The research shows that the spontaneous changes make employees afraid of new things and risks. The management should take necessary steps to make new things purposeful for their employees (Fleming and Spicer, 2003). Otherwise the management of the organization have to face resistance from their employees (Asgarkhani and Patterson, 2012). If new things and technologies that will lead to change the organization should be properly communicated among all the employees in the organization (Yılmaz and Kılıçoğlu, 2013). By communicating about new changes with employees the management can get positive response along with the some positive feedbacks from their employees. If the organization will not do so their employees will felt harmed and negatively will be spread all over the institution (Mlay et al., 2013). Employees response towards change is also effected by their personality traits of individuals.

10 CONCLUSION

This study highlights the main reason of employees' resistance to change in government organizations. The finding of this study reveals that management plays a vital role in reducing the resistance by proper communication. If employees have enough confident on the management of the organization they will definitely support management at every step of change formulation and implementation process in government organizations. Another reason of the employees' resistance is the personality traits but again if management convinces every employee that every change is betterment of the employees, they will support management at every step.

11 LIMITATION AND FUTURE RECOMMENDATIONS

In this study there is issue of generaliability arises due to small sample size, as the data was collected from ten employees only. In future increasing the sample size may be affected the results of the study. Furthermore quantitative study done in this issue may positively support the results obtained in this research which is qualitative research.

12 IMPLICATIONS OF THE STUDY

Particularly in private sector of developing countries like in Pakistan are largely under researched area. In past studies, performance of individual organizations is observed by researchers which do not cover all population. This study will help to explore impact of implementing new processes in the Government setup of the Pakistan and also helpful for efficient allocation for the change management practices in the organizations. This study will facilitate the management of the public sector organizations to overcome the issue of implementing change processes. This study will be helpful for efficient allocation of the change management practices in the organizations to get better outcomes from implementation of changes at an organization level that would involves either an increase in the value of driving forces, or a decrease in limiting hindering forces or some combination of interactions that lead to the violation of balance. The findings of this research helps in implementing the balanced approach regarding factors causes resistance for change management practices and by developing a strong organizational culture that must be creative and does not contain any political constrains. It tells how organizational management can manage the change that will lead to prosperous outcomes not just for the company but also for the employees and other stakeholders too.

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14 ANNEX

14.1 Interview Protocol

The interview protocol for the in-depth interviews with the government employees was developed from a review of the relevant literature and was available. The researcher used the protocol for the interviews to guide the participants. The Interview Protocol used to conduct the face-to-face in-depth interviews with the government employees was approved by the Superior University. The interviewer followed a topic guide to make the discussion and interview flow in a systematic and natural way, and to facilitate appropriate probing.

14.2 Initial Interview Protocol for Government Employees

1. Introduction

The interviewer introduces her role, aim and the format of the interview. After thanking the participant, the interview process will be introduced. The participant will be advised of what is expected of him/her. The ground rules of the interview will be established e.g.:

- All information and discussion will be treated confidentially.
- Participant will be informed about the purpose of the interview.
- Participant's opinion is valuable.
- The duration of the interview.

- Participant will be informed about the best way to get in touch with the interviewer, later if he/she wants to.
- The recording arrangement etc.

The participant will be asked to introduce him/herself and express any questions or concerns before the interview process starts. After answering all the questions and concerns, the tape recorder will be switched on and the interview will start.

2. Discussion Questions

The participant will be asked to answer the following questions:

- Are you satisfied with the level of your awareness about the changes taking place in your company?
- How do you cope with changes?
- Do you think that changes taking place in your organization are purposeful and necessary
- Do you observe resistance to changes?
- Who should take part in planning and implementing changes in the organization?
- Are there any workers in your company who disagree with the ongoing changes in your company
- What do these changes mean for you personally?
- Why do you work for this company?
- Do you support changes taking place in the company?
- What kinds of changes are planned in your organization?

3. Closing

Explain the next step of the research and how the participant's feedback will be used. Thank the participant again for his/her contribution and ask if he/she has any other questions. If there are no other questions, mark the ending time and turn off the tape recorder. The interview will be dismissed.

Source:

Kunanbayeva, D. and Kenzhegaranova, M. 2013. Resistance to Change in Organizations of the Republic of Kazakhstan: Country-Specific Reasons and Ways to Overcome it. *World Applied Sciences Journal*, 28 (2), 223–232.

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MIGRATION AND DIVERSITY POTENTIALS FOR ORGANISATIONS: THE CASE OF GERMANY

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ABSTRACT

A successful integration of migrants in the society as well as of older employees in the organisation is getting more important based on demographic changes. The central aim of the investigation is to deal with problem fields of the Human Resource Management, which arise by demographic changes regarding migration and the ageing society. Therefore, an explorative qualitative study with human resource managers and diversity representatives of the large DAX companies was conducted. The views of leaders and employees with and without an immigration background regarding diversity potentials in organisation are compared in this study. The results indicate that diversity is important for organisation. Employees have recognised the importance of diversity. Managers have not recognised the seriousness and urgency of cultural diversity and diversity actions. Human resource managers are not able to assess the additional stress of migrants correctly and to consider them in their day-to-day management and diversity actions.

KEY WORDS

migration, diversity potentials, intercultural competence, human resource management

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1 DIVERSITY MANAGEMENT

The process of globalisation as well as the European Integration increases the need for action of societies and organisations to adapt their structures and processes to demographic changes. The issue of diversity has high priority in Germany but also in other European countries. It will be difficult for companies to win young people for their own company, because there are less young persons of working age at the labour market compared to the ageing people of working age. In the EU average, 77% people of working age are between 55 and 64

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years and work in fulltime (German Federal Statistical Office, 2016). The ageing population has not only effects on the companies, but also on individuals, e.g. regarding the cooperation of teams.

To ensure the employees' and leader's performance, organisations have to select appropriate staff, who bring required diversity-competences like intercultural competence, social and digital competences, to address effectively the challenges of the 21st century. The interaction of people from different cultures is no longer an exception, but part of the professional life (Fantini, 2009).

People from different cultures and migrants are often discriminated in practice. Also their competences are undervalued and are evaluated worse. But these competences can also be used – they are important potentials for organisations. Research as well as practise showed that diversity is only working if organisations promote proactively, especially, ageing employees, women and persons with an immigration background (Fuchs and Dörfler, 2005).

The strong interest of society and economy regarding Diversity Management can be explained by the fact that the society has changed due to demographic processes and strong migration flows in the last two years, 2016 and 2017, in Europe. The result is a greater heterogeneity in societies and organisations. A successful Diversity Management is seen as indispensable for organisations in the long term. Since this challenge is realised many measures for the promotion of diversity are conducted.

More than 2,600 companies and institutions are signatories of the Diversity charter of German companies. However, by considering the national cross section of organisations in Germany, it is shown that around two thirds of the companies are not active regarding diversity and did not implement diversity management (KfW Research, 2017). Diversity has to be organised and consciously integrated in the respective organisation, when it should be used as a chance (e.g. Thomas, 2003; Franken, 2015). Migration delays the process of ageing society, but cannot solve it permanently (German Federal Statistical Office, 2015).

Diversity management describes the personnel diversity in organisations (Becker, 2006) and the commonalities and differences of individuals (Krell, 2003). It indicates both the obvious and barely perceived and salient characters like age, religion, sexual orientation, cultural values as well as barely obviously changing characters like language und competence (Milliken and Martins, 1996) and the values of equal opportunity and fairness.

Diversity management tents to create diversity in organisations and to change the values, attitudes and behaviours of organisation and working groups (Ashikali and Groeneveld, 2015). The prerequisite for an organisation for the success of diversity is the appreciation of employees and their different individuality (Vedder, 2011). Persons should be treated equally, except of their cultural individual characteristics and should use their skills free from norms and stereotypes (Vedder, 2011).

Diversity of employees can have different effects in an organisation. Especially, it depends on the extent to which diversity is respected. If the variety refers to status, negative effects for the organisation's performance are shown. If employees bring experiences, e.g. based on their different cultural background, it can have positive effects. An active promotion of this kind of diversity can contribute to an improvement of organisational results and can procure strong innovations. (Garib, 2013). Diversity can be enriching for organisations and individuals, if they value the diversity. (Page, 2007). Studies pointed out that individuals with a pro-diversity belief describe multicultural groups as better and more innovativ, precisely by the fact of the group's diversity. People with a pro-diversity belief identify themselves stronger with the group and have a positive social identity (van Dick et al., 2008). Wolf and van Dick (2008) illustrated in their study that people, who see migrants as an enrichment, have more contacts to them and express less racism than those, who do not see migrants as enrichment for the society. Stegmann (2011) pointed out in his meta-analysis that pro-diversity beliefs as well as a positive diversity

culture result in beneficial results for groups and individuals and increase job performance.

Different reasons exist about the organisations' causes and normative convictions for integrating diversity in their company strategy and culture (Ely and Thomas, 2001; van der Zee and Otten, 2014). Diversity research has different approaches from individual, organisational and economic perspective. Organisations develop different measures for the promotion of diversity that are depending on the approach which is chosen.

The main approach for diversity promoting is the discrimination-and-fairness approach. The equal opportunity of everyone is of central importance. By fairness the individual differences are valued and so every employee gains recognition for its own competences and performance. To achieve this, organisations insert different diversity policies and tools.

Quotes like anti-discrimination laws can be mentioned as examples.

The second approach for the promotion of diversity is the access-and-legitimacy-perspective. This approach understands diversity in the organisation as an access to new markets and is seen as an added value by the organisations (van der Zee and Otten, 2014).

The third approach is the integration-and-learning-perspective. Diversity is seen as a resource for learning, changing and renewal. Managers appreciate diversity on every level and encourage the exchange of different opinions.

All three diversity's approaches are successful to motivate managers to diversify their staff. But only the integration-and-learning approach leads to reach sustainable advantages in the daily business (van der Zee and Otten, 2014).

Although research varies greatly in different cultures it concludes in the some result: Diversity can only be successful if it is established as a top-down-process and if the members of the organisation have strong pro-diversity beliefs (Genkova and Ringeisen, 2017).

Leaders take an important role in diversity management. They have an influence on the satisfaction, health and performance of employees (Franken, 2015). Managers take over different roles in their function as a leader and are between role model function and performance pressure (Franken, 2015). Especially, managers take over a central role by initiating diversity management (Wildermuth and Gray, 2005).

Top managers take over the role of developing the diversity strategy. Leaders of the middle management implement the strategy. Therefore, the middle management plays a key role and demonstrates variety. They carry responsibility for a successful implementation of diversity management and are supporter of diversity competences (Thomas, 1990). The task of the leaders is to convince employees of the issue of variety (Dreas and Rastetter, 2016).

All studies have one in common. When organisations do not implement diversity actions in their company, the effects are negative and impair the working conditions for heterogeneous and homogeneous organisations. It is shown that diversity is a competitive advantage, but at the same time, it can be a source of conflicts and cumbersome behaviour. A diversity fair personnel selection and development are important for organisations because it gives organisations flexibility and additivity (Kersting and Ott, 2016).

2 MIGRATION AS DIVERSITY CATEGORIES

The employment of persons with an immigration background and ageing persons can have advantages for organisations, but can also lead to difficulties. Every communication with a member of another group is connected with stress experience and may lead to many misapprehensions. Employees are confronted with different challenges by the international cooperation, which can lead to stress (Holmes and Rahe, 1967).

This is also highlighted by the actual social processes: In 2015, around 4.7 million people have immigrated in the EU-states, whereby around 2.4 million people were from third

countries. The highest level of immigration is recorded by Germany, followed by the United Kingdom, France, Spain and Italy. The consideration of the migrant population shows that around 35.1 million people, who were born outside of Europe live in the EU. 19.3 million people, who were born in another EU-state, live in the EU (Eurostat, 2017). Romanians, Poles, Italians, Portuguese as well as Englishman belong to the five biggest groups of EU-citizens, who have lived before in other EU-state (Eurostat, 2017).

Migration and cultural differences became more dominant in the public opinion as well as for economic and social processes.

The migration research has developed between the 1950 years and the 21st century. Three main approaches were thereby considered: intercultural learning, stress approach, social identity as well as acculturation. All approaches were considered based on economic changes. Regarding diversity, the stress approach is predominantly in the research. The reason is that short-term and long-term intercultural communications are characterised by stress (Eggerth and Flynn, 2013).

The extent of the experienced burden is high, when the coping behaviour is ineffective or the number of appearing stressors is high (Eggerth and Flynn, 2013). Experienced discrimination, profound stress events as well as social isolation, e.g. by colleagues, can have an impact on the well-being of persons with an immigration background (Bozorgmehr and Razum, 2015). In this way, migrants have an additional burden and difficulties to show their performance. They become low performer and show sanitary and social problems. By these social problems the probability for discrimination is boosted as well as stress and challenges for people with immigration background.

The stress level increases through at the daily cooperation between people with and without an immigration background. The interpretation of unclear cultural patterns and the questioning of the organisational processes and structure cause many conflict situations. Not only persons with an immigration background can feel stress, but also persons without an immigration background because habitual and firmly social established perspectives change. Persons with and without an immigration background have to adjust to new working methods and views (Asbrock et al., 2012). This means for employees and managers to acquire intercultural competences to be able to work in multicultural teams and to fulfil the working challenges of the 21st century effectively.

Discrimination cannot be made only by individuals but also by organisational processes and structures which makes it difficult for migrants to get access to the labour market and to work in their key qualification. This is called structural discrimination. Only a structural integration can support persons with an immigration background to work in their key qualification. This processes are connected with cultural insensitive selection of personnel, which do not consider the cultural variance of personality traits. For example, if an organisations search for an extroverted employee on the German labour market all candidates from Italy would gauged as being too extroverted and inappropriate. The trend also occurs by social competencies which are strongly bound to cultural aspects (Genkova and Ringeisen, 2017). From the sociology perspective, the structural integration in the labour market is an important prerequisite to develop a national allegiance for persons with an immigration background.

In most of the organisations a structural discrimination is found. This means that the labour market chances of persons with an immigration background are smaller compared to persons without an immigration background.

The foreign graduation of persons with an immigration background is often not recognised and, therefore, they cannot work in their primarily qualification and work below their qualifications (Badura et al., 2010). Studies have shown that there is a negative relation between the education and the psychological integration. This phenomenon describes that higher educated migrants abandon from the host society (De Vroome and Verkuyten, 2015).

The so called glass ceiling effect is a phenomenon regarding gender and discrimination. This effect is stronger for persons with an

immigration background. The frustration and the disappointed career expectation lead to a critical consideration of the host society (Genkova and Ringeisen, 2017).

To see diversity not only in a negative way, in the research and in practice, it is always tried to determine whether direct positive effects of diversity management exist regarding the economic success. The results of the investigation are heterogeneous and depend strongly on the cultural specific relations (e.g. Genkova and Ringeisen, 2017).

The advantages of diversity management for employees and companies are getting more important. The effects of diversity actions are in great demand in practice and measurably quantifiable successes are expected. The research results indicate, that diversity beliefs are predictors for the success of diversity management and the economic success. The attitudes changes of employees are carried out by top-down actions. The role of the leadership is mostly important for the implementation and acceptance of diversity actions, than alone the diversity beliefs (Dreas and Rastetter, 2016).

For this reason, this study focuses the role of top-down actions and leaders in regard to the implementation of diversity.

Because the diversity research is strongly influenced by the political development, significant differences between the implicit and explicit attitudes are determined. The implicit attitudes purport the actions – but often in a negative way in regard to acceptance of diversity. The explicit attitudes rather include 'modern prejudice'. Outwardly, persons assess diversity in accordance with the public meaning and in a positive way. But in a protected area they remark negative meanings against diversity. To shape successful measures for diversity it is important to change the implicit attitudes.

This study is part of a bigger research project that focuses on the interactions of individual, group-oriented and organisational variables that require successful diversity management. In this study successful diversity management is associated with positive diversity beliefs, less discrimination and a fair promotion of persons with different cultural background.

The research questions of the study are: Which context variables seen as important for a successful diversity management? Which barriers obstruct the implementation of the diversity measures? Do manager and human resource managers realise the problem areas in the implementation of diversity management? To answer these questions, the differences of attitudes between managers and employees with and without migration background are compared. Aim of this comparison were to determine to what extent managers are presumed to be promotors of diversity.

3 METHODOLOGY AND DATA

This study deals especially with the key issue of the Human Resource Management's challenges regarding the demographic change. The study is a small part of a big project. Aim of the study is to determine with a qualitative survey which implicit attitudes occur by managers and employees with and without migration background. This implicit attitudes shall be used to generate quantitative hypotheses and to obtain specific measurements for a quantitative questionnaire.

Diversity, especially persons with a migration background are important potentials for organisations. For this purpose, explorative qualitative interviews were conducted. The aim was to analyse which role have managers regarding diversity and which competences are important to ensure equal opportunities in the personnel selection and to be diversity competent.

Migration background is defined according to the typical definition of the German society: a person with migrant background has at least one parent without a German background that immigrated to Germany after.

Therefore, 63 telephone interviews with managers ($N = 17$) and human resource managers ($N = 13$) as well as employees with ($N = 15$) and without ($N = 18$) an immigration

background from different organisations were asked about the issue of equal opportunities, especially equal opportunities of persons with an immigration background employees. To answer the central aims of the study, following hypotheses were generated:

Explorative hypothesis: Managers and employees assess the need of diversity actions as equivalent.

Quantitative hypotheses:

- *Hypothesis 1: Managers and employees differentiate regarding the expression of the stress level of employees with and without an immigration background.*
- *Hypothesis 2: Managers and employees differentiate regarding the forms of the subjective assessment of the social competence.*

There are rarely praxis-relevant and scientific results of diversity, especially cultural diversity regarding managers and human resource managers.

A qualitative interview was chosen as a survey method because it enables, compared to a quantitative questionnaire, to present the relationships and backgrounds of the topic diversity and the challenges of the Human Resource Management from the view of managers and human resource managers. Furthermore, conclusions for diversity potentials and stumbling blocks regarding the equal opportunities of persons with an immigration background and ageing people can be drawn. The interviews were conducted with a structured interview guideline.

Through qualitative interviews, non-concerned aspects can be figured out and, in turn, conclusions can be generated. In this case, which competences are important for diversity and to what extent diversity actions are necessary (Mayer, 2013).

The questions of the interview guideline include the view of managers and human resource managers regarding the importance of diversity in organisations as well as the assessment of the subjective evaluation of lacking skills, e.g. intercultural competences. Therefore, it is examined to what extent stress has an impact on employees with and without an immigration background. The standardised interview is based on an interview guideline, which is designed deductive, theory-based (Mayer, 2013). The use of an interview guideline increases the structure of the questions as well as the comparability of data (Mayer, 2013).

In total, the interview guideline is based on open and closed questions, e.g. "How stressed are employees with an immigration background in your company at the moment, in your opinion?" The closed questions were answered on a 5-Point Likert Scale, e.g. 1= not at all stressed until 5 = very stressed. The combination of open and closed questions enables on the one hand to experience the individual views of managers and on the other hand to compare the interviews among each other. So the implicit attitudes should be determined.

The interview guideline includes different parts. One part deals with the questions regarding the issue of diversity as well as company-related questions like equal opportunities of employees with an immigration background in organisations.

Another part deals with the aspects of social competence and the impact of cultural stereotypes and prejudices regarding the personnel selection. Further questions deal with the issue of leadership and stress.

The aim is to experience whether employees with an immigration background have different stressors than employees without an immigration background. In the last part of the interviews, the respondents are asked about the issue of competence, inter alia which competences have the biggest impact on the equal opportunities in the personnel selection.

The interviews were analysed by the quantitative content analyses by Mayring (2015). The aim of the quantitative content analysis is to analyse the material of a communication (Mayring, 2015). The interviews were analysed by the frequency analysis with the aim to count the elements of the material and compare their frequency with other elements (Mayring, 2015). The transcribed, anonymised interviews were analysed with Excel.

The sample consists of 17 managers and 13 human resource managers. 17 of them are male and 13 female as well as 15 employees without

an immigration background and 18 employees with an immigration background. 20 are female and 13 male. The age average of the managers and human resource managers is $M = 40.83$ years ($N = 29$; SD = 9.30). The age average of the employees with and without an immigration background is $M = 35.48$ years ($N = 33$; SD = 9.99). The participants were composite by executives and managers form the companies with the biggest DAX in Germany. Reason for that selection were, that this companies are global players (regarding size and effectiveness) and are concerned with inter-culturalism and diversity since years. Furthermore, this companies have a diversity agent.

4 RESULTS AND DISCUSSIONS

In the following, the results of the study will be presented. Explorative hypothesis: Managers and employees assess the need of diversity actions as equivalent. The results show that managers and employees assessed highly the diversity quotas, e.g. quota of women and migrants. These quotas are not usually legally consolidated by the view of managers and there is a lack of official guidelines. Mangers claimed in the interviews that such quotas exist and are implemented as internal orientations in organisations. Further actions are a diversity department, equal opportunities officer, diversity representative, who apply actively the implementation of equal opportunities and diversity sensitization.

Most of diversity actions deal with the diversity aspects gender in Germany. Managers listed up different trainings, language courses and exchange programs, culture trainigs which contribute to the implementation of diversity.

Human resource manager listed up trainings, joining the Diversity Charter of Germany Companies and the cooperation with the Federal Employment Agency. According to the statements of recruiters “individual intercultural competence trainings are offered for employees who would like to deal with intercultural competences and to analyse their own intercultural competence.” The trainings include e.g. issues like ”How to recruit internationally?, which aims at the intercultural difference at the recruiting.“ Further issues are “anti-prejudice [...] or emotional competences.”

In contrast, employees with and without an immigration background mentioned that hardly or no diversity actions are implemented in the interviewed companies at all. This shows that employees with an immigration background assess the implementation of diversity actions as insufficient and are unsatisfied with that. Most of the diversity actions deal with the communication of diversity in companies like On- and Offline platforms, diversity departments and diversity committees. Both groups mentioned that trainings are offered in the organisations.

Most of the interviewed employees work in organisations that belong to the Diversity Charta of German companies and have implemented diversity in their company strategy.

Employees figured out that the own professional development and the equal treatment at the personnel selection and development are important. Employees mentioned the following aspects as solutions: “Anonymous applications will not asserted. [...] Those, who have employee responsibilities and make personnel selections should do diversity competence training. They have to reflect themselves, if they are poised to hire someone, who is different than them. [...] I think that is actually the question and has to be answered by the human resource managers: Am I ready to hire somebody, who is different than I?” Following the statements of employees, also a form of benefit analysis can be helpful “[...] which hide the background of people as good as possible. So therefore, only the professional skills, social competence and media competences are measured without being influenced by the appearance of the person, e.g. gender etc.”

Both interviewed groups agree that openness, cultural interests are very important regarding

the relevant competences. Social competences like tolerance and self-reflection are also important, followed by the intercultural competence and the cultural knowledge and awareness. At this point, a tendency is verified like in the previous results: the employees with and without an immigration background list up more competences and differentiate stronger regarding the promotion of intercultural competence.

Managers assess the tendency for the promotion of relevant competences for the future. They do not see the importance of the promotion of theses competences for the present. Therefore, managers do an external attribution. Interesting is, that managers mention risk tolerance as a relevant competence for diversity and associate them with risks. Furthermore, they mention emotional stability, intercultural flexibility, social identity, intercultural antiprejudice as well as sensitisation for cultural differences. Employees mention instead empathy and openness, social competence, self-reflection, cultural knowledge and tolerance.

The research indicates that perspective change and experience exchange are stronger predictors for intercultural decision-making (e.g. Genkova and Ringeisen, 2017). The perspective change is a stronger predictor than empathy. Risk tolerance is not a relevant competence for diversity and the increasing of intercultural competence. This indicates that managers perceive diversity as a threat and assess the stress level for them as high because they are multipliers for diversity (see Tab. 1).

This shows that managers and employees consider the relevance of diversity measure as important. But it became obvious in the interviews that employees deal more with the issue of diversity than managers, based on the number of mentions and differentiation. Reasons for that can be that employees are more confronted with diversity and have more contact with it by colleagues and customers.

The frequency of citations indicate that there is a difference between self- and outside perception of managers and employees. Both groups attribute deficits and the need for diversity actions stronger to the other group. The research and practice shows that diversity processes proceeds top-down (Dreas and Raststetter, 2016). A further result of the present research and Best Practices is that top-down processes are only successful, when the expression of diversity sensitive competences is high (Dreas and Raststetter, 2016).

Hypothesis 1: Managers and employees differentiate regarding the expression of the stress level of employees with an immigration background.

The results of the hypothesis demonstrate that the assessment of the stress level of employees with an immigration background is the same of managers and employees ($T = .035$; df 1; 49; $p = .972$). These results are supported by the qualitative analysis. The qualitative analysis showed that especially prejudices and the impatience of others based on eventually language problems as well as different work attitudes based on intercultural differences are stressing for employees with an immigration background. This is supported by statements of employees with an immigration background: "People with an immigration background have the feeling: I have to give more than 120% than my German colleagues. This is one reason why migrants feel more stressed."

Because of the small sample, this results represent just hints. But the hints are served to generate quantitative hypotheses. These shall focus the self-experienced stress relating to diversity as well as the fears and anxieties that are associated with diversity.

Hypothesis 2: Managers and employees differentiate regarding the forms of the subjective assessment of the social competence.

The results confirm that there is no significant difference between managers and employees regarding the subjective assessment of social competence ($T = -.489$; df 2; 59; $p = .628$). This can be an indication that both groups feel prepared for the challenges of diversity management. These results indicate that the need of increasing the competences is attributed to others. This is confirmed by the previous research.

The results indicate significantly that the relevance of diversity is recognised by employees

Tab. 1: Importance of Diversity

Managers/Human Resource Managers	Employees with and without an immigration background
Seriousness and urgency of diversity is not clearly recognised	Seriousness and urgency of diversity is not clearly recognised by employees without an immigration background
Incorrect assessment of the stress of migrants	Good assessment of the stress level of migrants by employees without an immigration background
No consideration of the stress level of migrants in the day-to-day management	Risk of problematisation of diversity

and managers. But it is determined that this tendency is stronger for employees than for managers. Managers have often spoken about the importance of diversity measures for the organisation performance, justice and fairness for employees in the interviews. The managers have defined these aspects as important "for the future" and see no actual need. On the way around, managers are mostly a homogeny group that has less contact to diversity groups. So this homogeny group of managers has less contact points with heterogeneity and diversity than employees. A homogeny group also has less conflicts and do not see the need for action by the implementation of diversity.

This means that managers deny the actual need of action and do not recognise or diagnose the stress level of employees with and without an immigration background enough, based on the diversity change.

Managers have recognised the seriousness and urgency of diversity. But regarding cultural diversity and equal opportunities of persons with an immigration background, they do not see the urgency. Human resource managers are not able to assess the additional stress of migrants correctly and to consider them in their daily management. So recommendation for the successful implementation of diversity are not realised. This is regarded as task of the diversity agents, but not as general management task. This also applies for the change of diversity beliefs.

The employees have recognised the importance of diversity. Regarding the equal opportunities of persons with an immigration background, employees without an immigration background do not see the importance in personnel actions, in contrast to employees with an immigration background.

Employees without an immigration background assess the stress level of employees with an immigration background well. In the interviews, employees have already spoken about the risk of increasing problematisation of diversity.

The interviews have shown that in the western part of Germany, e.g. in the Ruhr area in Germany, such a concept would be superfluous because there is a high proportion of migrants and it is normal to work with different cultures together. An important diversity competence part is the intercultural and social competence. Empathy, tolerance and communicative competences, openness, self-reflection and emotional competences as well as cultural knowledge and awareness were also mentioned. Both groups have indicated the need to promote the competence by trainings and experiences abroad. This sounds partly contradictory to the results that both groups do not have significant differences regarding the subjective assessed social competence. The self-assessment is very high in addition, although the qualitative questionnaire classifies it as high.

In this study it can be positively highlighted that the sample of 63 managers and employees with and without an immigration background in total has a relative high diversification. Furthermore, the diversity aspects age and culture could be considered by different perspectives, by involved persons and managers, who develop diversity strategies for their companies and employees. The interview guideline covers many issues of diversity management. The combination of closed and open questions increases the comparability of the interviews, compared to

interviews with only open questions. But the results of structured interviews are less comparable, inter alia due to the open questions, whereby the analysis is more difficult. The results would have been more comparable, if a standardised, quantitative questionnaire was used and a higher sample could be asked. But the results would not have been so diverse like with the selected interviews. The topic diversity, especially equal opportunities of persons with an immigration background is hardly investigated. The qualitative investigation was used for generating hypotheses and delivers approaches that have to be examined in detail, in a quantitative investigation, in the future. The differences between the groups were only measured to generate specific hypotheses for a quantitative questionnaire.

There are some limitations of the study. The interview guideline deals partly superficial with some topics of diversity and does not question some parts in detail, e.g. which diversity actions are the most effective ones for elderly employees. However, other companies can differentiate from the sample due to other characteristics, e.g. size, structure, implementation of a diversity department. The interview guideline should be extended on the basis of the results of the study. Furthermore, it is necessary to investigate the category systems regarding their quality criteria.

The interviews pointed out that regional difference exist in Germany regarding the importance of diversity actions. Furthermore, the interviewed persons have answered the questions of the interviews differently in detail. Therefore, the results have to be considered critically. The interviews of the study were used for generating hypotheses for a quantitative questionnaire. Therefore, additional aspects regarding equal opportunities of persons with an immigration background could be measured. These aspects could not be asked in detail in conventional quantitative surveys. It was able to take a stronger focus regarding the urgency of diversity.

But there are some limitations regarding the sample: The results of the interviews give only approaches regarding the equal opportunities of persons with an immigration background and ageing people. To get a representative sample, a more comprehensive sample should be made with managers from different working fields, locations in Germany and other small, medium-sized and large organisations. The study could confirm that differences between employees with and without an immigration background exist regarding the importance of diversity concepts in personnel actions.

It has to be considered, whether the answers were given due to social desirability or deliberate misrepresentation because the survey method was an interview. A deliberate misinterpretation can be excluded because the respondents participated voluntarily and had not to expect any sanctions or other effects by specific statements. Social desirability could be minimised by the anonymisation of the data but it could still occur due to the social interaction during the interviews. This could lead to a distortion of the results because e.g. the individual responsibility or the skills of the own person were presented more positive.

To summarise: Diversity principles have to be more integrated in the company guidelines and manager guidelines. Apparently, leaders should be more sensitized, so that they are able to diagnose the present need of diversity correctly and are willing to implement the actions now and not in the future.

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MODELS OF CUSTOMER SATISFACTION WITH SUPERMARKETS IN POLAND

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ABSTRACT

The purpose of this paper was to compare three models of customer satisfaction with supermarkets in Poland. The authors decided to verify what kinds of satisfaction models are appropriate for describing relations between customer satisfaction and other constructs. The authors used structural equation modelling (SEM) to test and validate the models containing several latent variables, such as: perceived quality, perceived value and customer expectations. All of them were equipped with proper manifest variables, measured in a survey. The survey questionnaires were distributed using snowballing method. Verified models confirmed the significant impact of perceived quality on customer satisfaction and these two variables demonstrated the highest correlation. The study showed that the customer satisfaction reaches higher determination in more complicated models, such as value-based model and confirmation model. The study also showed that customer expectations don't have a direct impact on customer satisfaction.

KEY WORDS

consumer research, customer satisfaction, customer satisfaction model, supermarkets, structural equation modelling (SEM)

JEL CODES

M300, L810

1 INTRODUCTION

One of the most popular places for shopping basic goods is a supermarket. Supermarkets offer different types of goods e.g. food, cleaning products, all kinds of electronics and care products. Supermarkets introduce their own brands and they also introduce products that have the features of luxury products. Their prices are lower than the corresponding branded products (Maciejewski, 2016). They are cheaper but they have a connection with the original

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brand and support the atmosphere of closeness to luxury (Ochkovskaya, 2013).

Nowadays a consumer can choose of a large variety of supermarkets and switching a supplier is not a problem. Due to this, meeting the consumers' requirements and achieving their satisfaction should be fundamental goal for the supermarkets; because as claims Mohan (2013), improving customer satisfaction leads to improved business results of the firm in terms of sales and profitability.

As notice Pilelienė and Grigaliūnaitė (2013) there are a lot of results proving direct positive influence of customer satisfaction to increased economic benefits of the owners and other stakeholders of the organization.

Among the number of currently available approaches for studying customer satisfaction, very useful ones are satisfaction models. In the literature there are a lot of examples of customer satisfaction models i.e. classical concept as American Customer Satisfaction Index (ACSI), or as European Customer Satisfaction Index (ECSI), and propositions of models modified and supplemented e.g. additions of a new variables to them.

The purpose of this paper was to compare three models of customer satisfaction with supermarkets in Poland. The authors decided to verify which kind of the satisfaction model is appropriate for describing relations between customer satisfaction and other constructs. They chose to verify and compare three models of the satisfaction, i.e. the quality-based model, the value-based model and the confirmation model. These three types of the models are the basic types of customer satisfaction models (Biesok and Wyród-Wróbel, 2016).

The reason for taking up this study was to determine which type of customer satisfaction model is the most adequate to illustrate the satisfaction of supermarket customers. The existing literature does not resolve this issue, various authors use different models, among which standard models dominate, such as ECSI.

Such a resolution would be important because it would show a model, which would be the basis for developing satisfaction models in this specific branch. Potential outcomes of the study would allow to focusing on one of possible type of the models, which could be developed or adopted on different markets.

The study consists of five sections. Section 2 discusses the concepts of customer satisfaction with supermarkets and presents some factors regarding customer satisfaction with supermarkets. Section 3 is concerned with research methods used in this study and gives an overview of the survey. The next sections discuss the results and contributions of this research and limitations of the study.

2 CUSTOMER SATISFACTION WITH SUPERMARKETS

Customer satisfaction has an influence on marketing strategies of every company. Improving customer satisfaction leads to improved business results of the firm in terms of sales and profitability (Mohan, 2013; Angelova and Zekiri, 2011). Customer satisfaction is an important driver to customer loyalty and to the success of businesses; it is the consumers' fulfilment response (Oliver, 1997). Most frequently it is said that customer satisfaction depends on variables such as: consumer expectations (Fornell et al., 1996), quality of service and products (Lee and Cunningham, 1996), price (Anderson et al., 1994), perceived value (Pawlasová and Klézl, 2017) and trust towards the brand and the company (Pawlasová, 2015).

Customer satisfaction in a retail setting has been linked to a number of important outcomes including sales performance, customer retention and loyalty (Weerasiri, 2015 for Darian et al., 2001). Satisfied consumers display loyalty and a higher repurchase rate, while loyal consumers display satisfaction and come back to repurchase the product (Catherine and Magesh,

Tab. 1: Determinants of customer satisfaction with supermarkets

Motivating factors	Excitement factors	Confirmation factors
• overall brand image • service quality • convenient location, brand variety and shopping convenience • services and physical appearance • reviews about the store • marketing stimuli, advertisement, availability of parking space	• store atmosphere • stimulation of senses • presentation of goods • consumer relationship proneness • trust and commitment • personal interaction and convenience • product, procedures, the moments of contact with personnel and the core offer of the retailer • customer's perception regarding the performance of salespeople • services and physical appearance	• store loyalty • product quality • positive emotions, • quality of communication and company's image • interfacing with a client after the purchase • perception of purchased product's quality, intention to repurchase

Notes: Authors' elaboration based on Theodoridis and Chatzipanagiotou (2009), Neupane (2015), Weerasiri (2015), Rana et al. (2014), Thương (2016), Babin and Darden (1996), Noyan and Simsek (2011), Bloemer and Odekerken-Schröder (2002), Morschett et al. (2005), Darian et al. (2001), and Biesok and Wyród-Wróbel (2011).

2017). Khan (2006) marks that the choice of place of purchase depends on perception, self concept, social and cultural background, age, family cycle, attitudes, beliefs, values, motivation, personality, social class and many other factors that can be either internal or external.

Stores offer their consumers tangible and intangible components of the services provided, they include the following: products and their packaging (Marx and Erasmus, 2006), the visual elements of physical store environment e.g. colours, displays, decorative features, ease of movement etc., stimulation of senses: smell, condition of the air, music, lighting, the various procedures which consumer have to follow e.g. cashiers, queues, traffic, trolleys, etc. (Theodoridis and Chatzipanagiotou, 2009), the moments of contact with the personnel and the core offer of the retailer i.e. product variety, assortment, quality and pricing policy (Morschett et al., 2005, cited in Theodoridis and Chatzipanagiotou, 2009), employees knowledge and behaviour, prompt service, individual attention, and complaint handling (Ushantha et al., 2014).

Components mentioned above have a different influence on customer satisfaction when talking about supermarkets. Stores with a favourable atmosphere are likely to increase the positive buying experience and customer satisfaction (Babin and Darden, 1996). Bloemer and Odekerken-Schröder (2002) show that significant influence on customer satisfaction have such factors as consumer relationship proneness, positive effect and image of the store. Also Neupane (2015) mentions that overall brand image has a positive effect on consumers satisfaction and their loyalty.

Among other factors that influence satisfaction with supermarkets there are: product, price (Thương, 2016; Huddleston et al., 2008), service quality (Weerasiri, 2015), personal interaction, convenience, services and physical appearances (Thương, 2016), sales personnel competence, convenience, reliability, physical evidence, after sales service and product innovation (Kumar, 2017). The studies don't confirm the influence of merchandising on customer satisfaction (Theodoridis and Chatzipanagiotou, 2009), however, perceived merchandise quality has a stronger impact on customer loyalty (Reddy et al., 2011).

Previous studies identified some factors regarding customer satisfaction with supermarkets. Tab. 1 presents a proposition of three types of variables which could influence customer satisfaction with supermarkets.

The list of actual or potential factors that may form the basis of model construction is not closed. Recent research indicates many interesting majors that should be taken in future studies. And so, for example, identify and investigate the factors and test models in different types of stores: for instance clothing stores

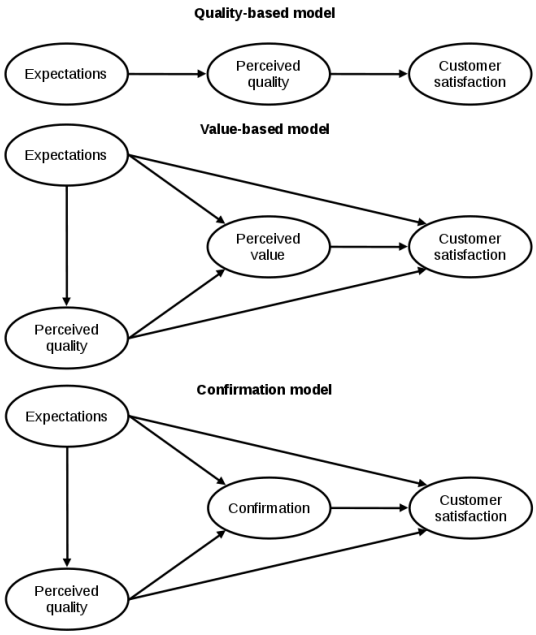

Fig. 1: Models used in the study

with technical goods (Terblanche, 2018; Grah and Tominc, 2015), investigate the relationship between satisfaction with the local assortment and actual store patronage (Clarke et al., 2012); the role of corporate image on customer satisfaction may be used as a moderating factor (Demirci Orel and Kara, 2014). These proposals show that the structures of satisfaction models are not closed but there is still a lot of space for them to develop and modify.

3 METHODOLOGY AND DATA

3.1 Research Instruments

In order to compare different approaches on customer satisfaction modelling the structural equation modelling (SEM) was used and three satisfaction models were proposed:

1. quality-based model – containing three latent variables: expectation (EXP), perceived quality (QUAL) and customer satisfaction (SAT),
2. value-based model – containing four latent variables: expectation (EXP), perceived quality (QUAL), perceived value (VAL) and customer satisfaction (SAT),
3. confirmation model – with four latent variables: expectation (EXP), perceived quality (QUAL), confirmation (CONF) and customer satisfaction (SAT).

All of them are shown in Fig. 1.

Tab. 2: Variables used in the model

Latent variable	Manifest variables	Reliability coefficients
Expectations EXP	I have big expectations regarding the quality of products in this supermarket. I expect that in this supermarket I will always find products that I currently need. I have big expectations regarding the quality of customer service in this supermarket. I expect that the supermarket's personnel will always help me out. I expect that the supermarket's personnel will react positively to my questions and needs.	$\alpha = 0.844$ $\rho = 0.890$
Perceived quality QUAL	The supermarket offers good quality products. Products meet my requirements. Customer service in the supermarket is very good. I am being served according to my expectations. The variety of products meets my demand. The supermarket functions better than other supermarkets in the area. The staff is reliable and professional. I can always count on help from the personnel.	$\alpha = 0.898$ $\rho = 0.904$
Perceived value VAL	Products bought in this supermarket are worth their price. Prices in this supermarket are reasonable. For the same amount of money I can buy more here, than at the competitor's.	$\alpha = 0.843$ $\rho = 0.906$
Confirmation CONF	To sum up: the quality of products in this supermarket is better than I expected. The quality of service in this supermarket is better than I expected. The prices of products are lower than I expected.	$\alpha = 0.774$ $\rho = 0.869$
Customer satisfaction SAT	Overall, I am happy with the purchase in this supermarket. The supermarket meets my demand. The supermarket is close to ideal.	$\alpha = 0.853$ $\rho = 0.913$

Tab. 3: Structure of the sample concerning respondents

Feature		Percent
Gender	Female	74.0%
	Male	26.0%
Age	no data	2.0%
	less than 18	1.0%
	18–25	36.0%
	25–40	31.0%
	40–65	27.0%
	more than 65	3.0%
Region	Lesser Poland Voivodeship	12.0%
	Silesian Voivodeship	88.0%
Running a household	No	37.0%
	Yes	63.0%
Average spending on shopping in a supermarket	Average minimum	51.95 PLN
	Average maximum	157.80 PLN

The authors used 5 constructs in total, and assumed that all of them shape in a reflective way. Every latent variable was equipped with a set of manifest variables. The set of manifest variables was used in order to measure them. Scales are self-developed, only manifest variables of customer satisfaction (SAT) were adopted form Pilelienė and Grigaliūnaitė (2013). At first, the authors proposed more variables in the measurement model, but having collected survey data, preliminary verification of them was performed and variables aggravating the internal consistency of the measurement model were eliminated. For this verification the Cronbach's α coefficient and Dillon-Goldstein (D. G.) ρ coefficient were used. Final sets of the variables used in the measurement model are shown in Tab. 2.

Manifest variables were measured with 5-point Likert's scale, from 1 – "I do not agree at all" to 5 – "I extremely agree". There were no reverse-scaled items.

3.2 The Sampling Method

Manifest variables were measured in a survey. The survey questionnaire was created by the authors. The questionnaire consisted of two parts:

1. The first one described the profile of the customer: gender, age, place of residence, running of a household (yes or no), frequency of shopping in supermarkets and average amount of money for a single purchase,
2. The second part allowed to assess a chosen supermarket in questions concerning: the supermarkets name, location, frequency of shopping in it and 35 statements describing manifest variables. Every respondent had a possibility to assess 1–3 supermarkets.

The questionnaires were distributed in southern Poland (Silesian and Lesser Poland Voivodeships, Poland), using snowballing method. In return 215 filled questionnaires were obtained. Tab. 3 and 4 show the structure of the sample.

Tab. 4: Structure of the sample regarding supermarkets

Feature	Percent
Location of the supermarket	
Silesian Voivodeship districts:	93.0%
– Bielsko-Biała	30.2%
– bielski	11.6%
– cieszyński	10.2%
– pszczyński	1.4%
– Tychy	2.3%
– żywiecki	37.2%
Lesser Poland Voivodeship districts:	7.0%
– Kraków	1.4%
– oświęcimski	3.3%
– wadowicki	2.3%
Brand of the supermarket	
– Biedronka	33.5%
– Lidl	19.1%
– Kaufland	8.4%
– Tesco	7.0%
– Lewiatan	5.1%
– Dino	4.2%
– Delikatesy Centrum	4.2%
– Intermarché	3.3%
– Aldi	2.8%
– Netto	1.9%
– other	10.7%

3.3 Data Analysis

The authors used in the study a software dedicated to structural equation modelling (SEM), using partial least square methods (PLS). Confidence intervals and levels of significance were calculated using bootstrap methods. The authors did not accept questionnaires with missing data and they removed them. All regressions in the inner model were calculated with intercepts (with intercepts different than 0). Latent variable scores were estimated in the manifest variables scale (so without transformation).

Tab. 5: Quality-based model – evaluation of the measurement model

Latent variable	Type	Items	Cronbach's α	D. G. ρ	1st EV	2nd EV
Expectations (EXP)	Exogenous Reflective	5	0.844	0.890	3.088	0.854
Perceived quality (QUAL)	Endogenous Reflective	8	0.878	0.904	4.340	1.210
Customer satisfaction (SAT)	Endogenous Reflective	3	0.857	0.913	2.334	0.426

Note: EV – eigenvalue

Tab. 6: Quality-based model – paths in inner model

Path	Path coefficient	Standard error	t	$p > \|t\|$	Significance
EXP → QUAL	0.537	0.044	12.314	0.000	Yes $p < 0.001$
QUAL → SAT	0.964	0.059	16.218	0.000	Yes $p < 0.001$

Tab. 7: Quality-based model – modelling results

Endogenous LV	Equation of the model	R^2	F	$p > F$	Significance
QUAL	= 1.607 + 0.537 EXP	0.426	151.625	0.000	Yes $p < 0.001$
SAT	= –0.095 + 0.964 QUAL	0.563	263.024	0.000	Yes $p < 0.001$

Tab. 8: Value-based model – evaluation of the measurement model

Latent variable	Type	Items	Cronbach's α	D. G. ρ	1st EV	2nd EV
Expectations (EXP)	Exogenous Reflective	5	0.835	0.883	3.017	0.887
Perceived quality (QUAL)	Endogenous Reflective	8	0.872	0.900	4.249	1.254
Perceived value (VAL)	Endogenous Reflective	3	0.843	0.906	2.289	0.488
Customer satisfaction (SAT)	Endogenous Reflective	3	0.853	0.911	2.322	0.435

Tab. 9: Value-based model – paths in inner model

Path	Path coefficient	Standard error	t	$p > \|t\|$	Significance
EXP → QUAL	0.528	0.044	11.982	0.000	Yes $p < 0.001$
EXP → VAL	−0.037	0.089	−0.419	0.676	No
QUAL → VAL	0.544	0.109	5.001	0.000	Yes $p < 0.001$
EXP → SAT	−0.016	0.057	−0.274	0.785	No
QUAL → SAT	0.806	0.074	10.913	0.000	Yes $p < 0.001$
VAL → SAT	0.350	0.045	7.766	0.000	Yes $p < 0.001$

Tab. 10: Value-based model – modelling results

Endogenous LV	Equation of the model	R^2	F	$p > F$	Significance
QUAL	= 1.650 + 0.528 EXP	0.414	143.578	0.000	Yes $p < 0.001$
VAL	= 1.728 − 0.037 EXP + 0.544 QUAL	0.160	19.200	0.000	Yes $p < 0.001$
SAT	= –0.710 − 0.016 EXP + 0.806 QUAL + 0.350 VAL	0.662	131.391	0.000	Yes $p < 0.001$

4 RESULTS

4.1 Quality-Based Model

Building this model the authors had to exclude 9 questionnaires because of missing data, so the final sample of 206 units was used. Tab. 5 shows that measurement model was properly structured: Cronbach's alpha and Dillon-Goldstein's rho significantly exceeded their threshold values (0.7) and the first eigenvalues were bigger than 1.000 (cf. Biesok and Wyród-Wróbel, 2016). The evaluation of the measurement model gave positive results, and this set of variables can be used to determine the internal structure of the model. Tab. 6–7 present the results of the modelling.

4.2 Value-Based Model

In this case the authors excluded 10 questionnaires because of missing data. As in the previous case, the measurement model showed an adequate internal consistency (Tab. 8). Tab. 9 and 10 present results of the modelling.

4.3 Confirmation Model

The last model was determined on the basis of 206 units sample, 9 questionnaires were excluded because of missing data. In this case the measurement model was positively evaluated as well. Tab. 11–13 present results of the modelling.

4.4 Comparison of the Results

In all three cases the model fit is satisfactory. Goodness of Fit (GoF) index calculated for outer and inner model exceeds threshold value 0.9 (Biesok and Wyród-Wróbel, 2016). Quality-based model determines customer satisfaction in the lowest degree: coefficient of determination reaches the value 0.563, which means that 44% of customer satisfaction variance is not explained by the model. Last two models have better determination, respectively 0.662 and 0.650. According to Sanchez (2013) it is very high and desirable level of determination.

Standardized path of the coefficients demonstrates that perceived quality has the biggest contribution to the customer satisfaction. Interestingly, in the value-based and confirmation model the impact of expectations on customer satisfaction is statistically insignificant. Tab. 14 shows comparison of tested models and Fig. 2 their graphical interpretation.

5 DISCUSSION AND CONCLUSIONS

In general, the results show that none of the presented model concepts can be categorically rejected.

Each model confirmed the significant impact of perceived quality on customer satisfaction, and this conforms to the results obtained in the previous studies. Perceived quality and customer satisfaction demonstrated the highest correlation and the quality-based model shows that perceived quality determines satisfaction in about 56% ($R^2 = 0.5625$).

The earlier researches also identified that high service quality leads to high customer satisfaction (Taylor and Baker, 1994; Fornell et al., 1996); and in the case of supermarkets similar strong positive relationship between service quality offered by supermarkets in Sri Lanka and the customer satisfaction was shown e.g. by Weerasiri (2015) or Ushantha et al. (2014). Ushantha et al. (2014) showed that both product quality and service quality are for consumers equally major factors for consideration in deciding the overall service quality of a supermarket.

Perceived quality is an important factor creating customer satisfaction, but it is not sufficient. The customer satisfaction reaches a higher determination in more complicated models: value-based model and confirmation model.

Tab. 11: Confirmation model – evaluation of the measurement model

Latent variable	Type	Items	Cronbach's α	D. G. ρ	1st EV	2nd EV
Expectations (EXP)	Exogenous Reflective	5	0.844	0.890	3.088	0.854
Perceived quality (QUAL)	Endogenous Reflective	8	0.878	0.904	4.340	1.210
Confirmation (CONF)	Endogenous Reflective	3	0.774	0.869	2.066	0.509
Customer satisfaction (SAT)	Endogenous Reflective	3	0.857	0.913	2.334	0.426

Tab. 12: Confirmation model – paths in inner model

Path	Path coefficient	Standard error	t	$p > \|t\|$	Significance
EXP → QUAL	0.536	0.043	12.332	0.000	Yes $p < 0.001$
EXP → CONF	0.160	0.072	2.239	0.026	Yes $p < 0.05$
QUAL → CONF	0.584	0.087	6.697	0.000	Yes $p < 0.001$
EXP → SAT	−0.084	0.059	−1.436	0.152	No
QUAL → SAT	0.743	0.078	9.504	0.000	Yes $p < 0.001$
CONF → SAT	0.406	0.057	7.141	0.000	Yes $p < 0.001$

Tab. 13: Confirmation model – modelling results

Endogenous LV	Equation of the model	R^2	F	$p > F$	Significance
QUAL	= 1.611 + 0.536 EXP	0.427	152.071	0.000	Yes $p < 0.001$
CONF	= 0.457 + 0.160 EXP + 0.584 QUAL	0.374	60.617	0.000	Yes $p < 0.001$
SAT	= –0.277 − 0.084 EXP + 0.743 QUAL + 0.406 CONF	0.650	125.289	0.000	Yes $p < 0.001$

Tab. 14: Comparison of the models

Feature of the model	Quality-based model	Value-based model	Confirmation model
Goodness of Fit (relative)	0.921	0.856	0.903
Goodness of Fit – outer model	0.995	0.994	0.995
Goodness of Fit – inner model	0.926	0.861	0.908
Determination of customer satisfaction (R^2)	0.563	0.662	0.650
Impact on customer satisfaction:			
Expectations		−0.010 (0.461) n. s.	−0.075 (0.476) n. s.
Perceived quality	0.750 (0.750) $p < 0.001$	0.610 (0.747) $p < 0.001$	0.574 (0.749) $p < 0.001$
Perceived value		0.347 (0.596) $p < 0.001$	
Confirmation			0.370 (0.680) $p < 0.001$

Note: n. s. – not significant

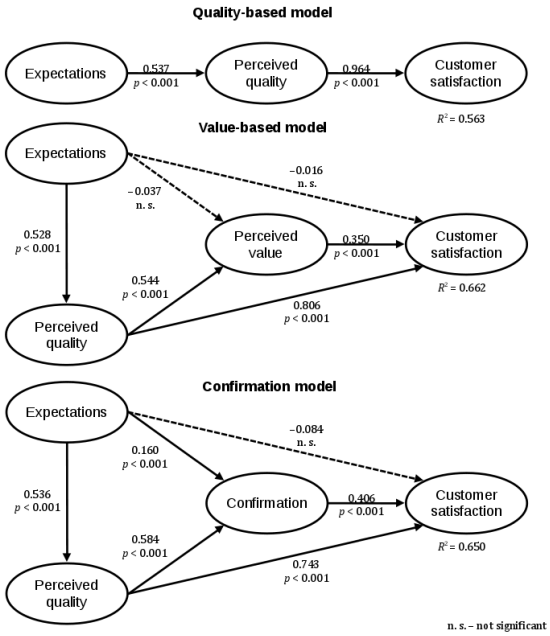

Fig. 2: Models determined in the study

The main contribution of the study is a finding that value based model is an appropriate concept for studying and modelling the customer satisfaction with supermarkets. However, in the implemented model the perceived value has very low and unacceptable determination ($R^2 = 0.160$). This means that the source of its variance is not sufficiently explained by the model and it is necessary to enrich this model with other factors that may affect the perceived value. Various studies try to find other antecedents of perceived value, e.g. experience quality (Chen and Chen, 2010), sacrifice (Cronin et al., 2000).

This study did not show that customer expectations have a direct impact on customer satisfaction. Other authors got similar results in their research. Pilelienė and Grigaliūnaitė (2013) in their study with supermarkets in Lithuania showed that customer expectations have direct effects on perceived value and customer satisfaction, but the influence on customer satisfaction is less statistically significant. On the other hand, Yi and La (2003) demonstrated that the impact of expectations on the satisfaction is statistically insignificant.

Relatively small sample is the main limitation of this study. Therefore, the results are treated as preliminary ones, and this research will be further developed. The sample is also limited territorially to the southern Poland and its structure is random because of chosen sampling technique – snowballing. The snowballing gives a possibility to reach many respondents, but loses control of the process of data obtaining. However, the acquired sample mirrors the structure of retail brands in Poland.

The second limitation is a low determination of perceived value and perceived quality constructs. It means that analysed models should be complemented with other latent variables.

Future studies will require a larger sample and more variables in the inner model. First of all, the value-based model should be supplemented with elements determining the perceived value. For example Gallarza and Saura (2006) proposed 8 factors affecting the value: efficiency, service quality, social value, play, aesthetics, perceived monetary cost, perceived risk and time and effort spent. Some of them may be used in building and verifying future models.

Other variables that can be considered are: image, trust and emotions. For example, Burns and Neisner (2006) combine customer satisfaction with perceived quality and emotions. In their opinion if a performance is deemed as negative, not only the negative performance will affect level of satisfaction, but also the negative emotions associated with poor performance will most likely affect the level of satisfaction.

The second interesting area of the research is the impact of expectations on satisfaction. The question: "Why do some studies show that this influence is important and some do not?" is still waiting to be answered. It is necessary to know what factors affect this influence, and in what conditions does this influence grow.

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TESTING SUSTAINABLE CONSUMPTION BEHAVIOR IN ITALY AND PAKISTAN

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ABSTRACT

The purpose of this empirical research is to determine the relative impact of food safety concern, ethical concern and health consciousness on the theory of planned behavior dimensions. Moreover, this study also ascertains the impact of the theory of planned behavior dimensions (attitude, subjective norms, and perceived behavioral control on repurchase intentions of organic food among Pakistan and Italian consumers. A highly structured questionnaire is used to collect the data from 337 consumers from Italy and 314 consumers living in Pakistan. As proposed by the researchers, measurements invariance tests are used to analyze the cultural differences (if any) and subsequently structural equation modeling is used to determine the study hypotheses. The study results revealed mix findings and demonstrated significant differences between Pakistani and Italian consumers.

KEY WORDS

ethical concern, food safety concern, theory of planned behavior, cross-cultural differences

JEL CODES

M31, Q01, Q56

1 INTRODUCTION

In recent years, the consumers are facing various food hazards in food consumptions including bovine spongiform encephalopathy; herbicide resides pesticides, genetic modification, and food poisoning (McCluskey et al., 2005; Christoph et al., 2008). Due to these reasons, the organic food market has seen swift market growth to reduce the herbicides, pesticides, and fertilizers (Lee et al., 2014; Kim et al., 2013). As per Organic Trade Association statistics, the organic food market grows $27 billion in the United States in spite of a struggling economy. Even though the organic food offerings are increasing and retailers' desire to market more

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organic food, there are numbers issues in buying this kind of food due to limited availability, higher quality skepticism, and premium prices (Lea and Worsley, 2005).

Sustainability and social responsibility are important topics in recent marketing research literature (Yoo et al., 2011; Lee et al., 2014; Ishaq and Di Maria, 2018). In general, the ethical consumer shows his ethical responsibility through his/her buying intentions whereas he/she is also willing to pay premium prices for ethical-backed good and services (DiPietro et al., 2013; Ishaq and Di Maria, 2018). The existing academic literature related to consumer attitudes, motives and purchase intentions towards organic food behavior is very scarce (Newsom et al., 2005) and had mix results. For instance, the studies of Lea and Worsley (2005) and Lockie et al. (2004) primarily focuses on identifying motives to buying behavior of organic food and found that nutritional information and health are major motives for purchasing. However, the studies of Çabuk et al. (2014) and Manaktola and Jauhari (2007) found that the consumer behavior does not link with positive attitudes of consumers. Several studies have shown that price sensitivity is also an important factor to buy organic food as compared to conventional food. These impediments are considered as reasons for attitude-behavior-gap in organic food buying because the positive attitudes do not always support the purchasing decisions.

Till date, multiple empirical studies have been conducted to analyze the consumers' purchase behavior towards organic food. The one group mainly focuses on the influence of consumer motives on the organic food and found that the nutritional and health motives are a most influential factor that pushed the consumer to buy the organic food (Lea and Worsley, 2005; Lockie et al., 2004). Williams and Hammitt (2000) claimed that some consumers prefer the organic food to establish healthier eating habits and positive gains. Another strong motive appeared in the literature is an environmental concern (Magnusson et al., 2003), but with mixed results (Çabuk et al., 2014).

Some of the key and primary motivating factors identified for current study are food safety, environment, and health (Hughner et al., 2007; Smith and Paladino, 2010; Hoefkens et al., 2009; Nardalı and Ay, 2008; Lodorfos and Dennis, 2008; Hamzaoui-Essoussi and Zahaf, 2008; Hwang, 2016; Lee et al., 2015; Çabuk et al., 2014). Despite these empirical findings, some studies also found that the food safety, health, and environment is not a strong predictor of repurchase intentions and consumer attitudes to buying organic food (Smith and Paladino, 2010; Michaelidou and Hassan, 2008; Tarkiainen and Sundqvist, 2005). Hence, it cannot be argued that these key motivating factors have the same importance in consumers' mind about buying organic food.

The food choice motives have been explored numerous times (Lee et al., 2015; Çabuk et al., 2014; Chen et al., 2007), but, no study has been conducted to identify the relative impact of organic food buying behavior among consumers of a developed economy and emerging economy in the world. Accordingly, the purpose of this research is to determine the relative impact of environmental concern, health consciousness and food safety concern on Theory of Planned Behavior (TPB) dimensions (attitude, subjective norms, and perceived behavioral control). Additionally, this research also explores the impact of TPB dimensions on purchase intentions of Italian and Pakistani consumers who are buying organic food.

2 HYPOTHESES DEVELOPMENT

2.1 Health Consciousness and TPB

The scandals in food, allergy in children, and the negative influence of biotechnological advancement in agricultural products on environment and health (Çabuk et al., 2014; Rimal et al., 2006; Lee et al., 2015) had increased the consumer's interest to be health conscious and buying organic food. Michaelidou and Hassan (2008) argued that consumers having health concerns are interested in healthier behavior, good quality life and buying a pattern to prevent illnesses. This health consciousness is such a vital encouraging factor for the consumers that many studies have been conducted to determine the actual purchase behavior and intention to buy (Nardalı and Ay, 2008).

Magnusson et al. (2003) claimed that health is considered as a relatively strongest influencer for repurchase intentions, frequent buying behavior, and attitude towards purchasing organic foods. Many studies have shown the consumer preferences towards organic food because of healthier which shaped the purchase attitudes (Hoefkens et al., 2009; Hamzaoui-Essoussi and Zahaf, 2008). The study of Michaelidou and Hassan (2008) also claimed that health consciousness has a significant impact on purchase attitudes regarding organic food. As far as the cultural differences are concerned, Squires et al. (2001) shown differences of opinion among Dutch and New Zealander consumers. The Dutch consumers prefer environment while New Zealand consumers prefer health as the strongest predictor of organic food consumption. Based on these results, it can assume that the health consciousness influences consumers attitudes, subjective norms and perceived behavior control (PBC) in buying organic food.

H_1: Health consciousness has a positive impact on TPB dimensions (attitudes, subjective norms, and PBC).

2.2 Environmental Concern and TPB

The environmental concern is also taken as an important factor in buying organic food. As compared to conventional food, the organic food is considered as more environmental friendly products which put less harm to the earth and also beneficial for the environment (Grønhøj and Ölander, 2007; Hamzaoui-Essoussi and Zahaf, 2008; Hwang, 2016). The literature states that consumers are actively consuming that food which they perceived little harmful to the environment, and are sustainable, and ecological friendly (Zanoli and Naspetti, 2002).

In contrast to these results, some studies also found adverse results on the relationship of organic food consumption and the environment. Verhoef (2005) claimed that organic food consumption does not have any significant impact on buying intentions and preference for organic food. The studies of Çabuk et al. (2014), Yadav (2016), and Lee et al. (2015) found a positive impact on buying attitudes of organic food. Based on these results, it can assume that:

H_2: Environmental concern has a positive impact on TPB dimensions (attitudes, subjective norms, and PBC).

2.3 Food Safety and TPB

The rapid growth in pain relievers, hormone, animal residues, toxins, food additives, bacteria and pesticide residuals in food have increased distrust on the quality and edibility of food concerns (Rimal et al., 2005). Moreover, it is also not claimed that the quality and integrity of organic food is also safer than conventional food. However, there is limited scientific evidence are available which claimed that the consumption of organic food is healthier and safer (Magkos et al., 2006).

Numerous studies also take food safety concern as an important motivating factor to buy organic food (e.g., Çabuk et al., 2014). Rimal et al. (2005) claimed that the perception regarding food safety risk is significantly different between the consumers who prefer organic food versus the consumers who buy conventional food. The organic food buyers perceived that the potential risk of pesticides in organic food is relatively low when it compared to conventional food. For this reason, the consumers are ready to pay premium prices (Williams and Hammitt, 2000).

Similar to environmental concern and health consciousness research studies, food safety concern also has mixed results. Michaelidou and Hassan (2008) found that food safety concern has a positive influence on attitudes towards organic food but insignificant impact on intention to buy. Since the majority of studies claimed the impact of food safety concern on purchasing attitudes; it can assume that food safety concern influence TPB's dimension among Pakistan and Italian consumers. Therefore,

H_3: Food safety concern has a positive impact on TPB dimensions (attitudes, subjective norms, and PBC).

2.4 TPB Dimensions and Purchase Intentions

Numerous theories are available to understand the human behavior, the theory of planned behaviour (TPB) is considered as the key theory to understand the wide ranges of behaviours (Ajzen, 1991). This theory is implemented in various contexts including the adoption of IT, alcohol consumption, hoteling industry and travel destination choices (Hsu and Huang, 2012).

The recent studies revealed that the attitudes towards organic food strongly predict the buying intentions (e.g., Gracia Royo and de Magistris, 2007). A significant and relatively strong relationship has been in previous studies in diverse settings (Michaelidou and Hassan, 2008; Lee et al., 2015). Tarkiainen and Sundqvist (2005) claimed that the consumer attitudes influenced organic food's buying intentions. Moreover, the same result also found in the study of Chen et al. (2007) study.

The subjective norms explain the social pressure perceives by an individual when he/she engages him/herself in a behavior. The study of Sparks et al. (1995) contended that the subjective norm is one of the weakest predictors of buying intentions whereas the study of Chen et al. (2007) and Armitage and Conner (2001) demonstrated subjective norm as a strong influence on repurchase intentions regarding organic food.

The third aspect of TPB is perceived behavior control which refers to self-control in a given situation while taking the benefits and risks associated with that specific behavior. The studies of Chen et al. (2007) and Godin and Kok (1996) reported the positive influence of PBC on buying intentions. Based on these results, the following hypothesis states as:

H_4: TPB dimensions (attitudes, subjective norms, and PBC) have a significant impact on purchase intentions.

3 RESEARCH METHODOLOGY

The conceptual model tested in this study is presented in Fig. 1. The academic literature contains two stand-out approached to understand and analyze the cross-cultural examinations; the etic approach and the emic approach. This study uses an etic approach where a researcher collects the data from two culturally-different populations and explore the differences (if any). Using self-administered and survey research approach, the data is collected from consumers of different ages living in Italy and Pakistan. To determine the sample representativeness, Kline (2011) proposed that data should be collected from 10 respondents against each measuring item. In this study, the total measuring items are 31, so the sample should be 310 from each country. Accordingly, the questionnaire is distributed using a convenience

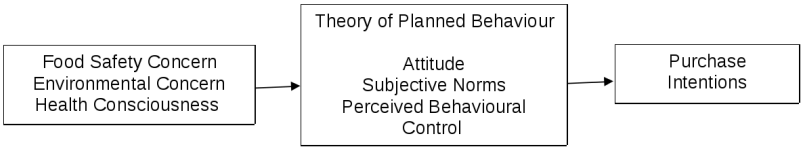

Fig. 1: Conceptual Framework of this Study

sampling method to the 400 Italian and 400 Pakistani consumers living in urban cities. In the end, 337 questionnaires are in usable condition from an Italian sample while 314 responses are filled by Pakistani respondents. The response rate is 84% and 79% of Italian and Pakistani sample respectively. The said number of respondents indicated the sample representativeness from each sample. The data is collected during January and February 2018 from Pakistan whereas the data collection in Italy is done during October and November 2017.

Among Italian respondents, 53% respondents are female whereas the male accounted for 47%. Concerning age, 23% respondents have age less than 25 years old, while 46% have age between 26 and 35 years and 31% respondents have an age greater than 35 years. A total of 66% of respondents are single while 30% are married and 4% do not disclose their marital status. With respect to Pakistani sample, 69% respondents are male while only 31% are female. Majority of the respondents (52%) having age between 26 and 35 years of age. For marital status, 59% of respondents are married while 41% are single.

Although, the previous studies related to organic food consumption conducted in cross-cultural settings (e.g., Squires et al., 2001; McEachern and McClean, 2002; Tsakiridou et al., 2008; Schifferstein and Oude Ophuis, 1998), but in the almost same cultural environment as per Hofstede cultural theory. This current study is first of its kind that collected the date from two countries that that economically and culturally different. Both cultures are distinguished and exemplified at a different level in the cultural study of Hofstede (1991). Engelen and Brettel (2011) claimed that the individualism-collectivism dimension is most important to determine the cultural differences. Moreover, around 52% of studies conducted in a cross-cultural context are mainly focused on the said dimension. According to this dimension, Pakistan is considered as one of the most collectivistic country having a score of 14 whereas the Italian environment is purely individualistic with 76 score.

The highly structured questionnaire is designed to collect the responses purchase intentions, perceived behavioral control, subjective norms, purchase attitudes, health consciousness, and environmental concerns. The theory of planned behavior's dimensions is adapted from the scale of Bredahl (2001) where 4-items are used to measure purchase attitude, 3-items are used for the subjective norm, and 4-items are used to determine perceived behavioural control. The 4-items related to purchase intentions towards organic food are taken from the studies of Pliner and Hobden (1992) and Bredahl (2001) whereas 7-items are taken from Williams and Hammitt (2000), McEachern and McClean (2002) and Michaelidou and Hassan (2008) to measure food safety concerns. The environmental concern (4-items) and health consciousness (6-items) are taken from the studies of Roberts and Bacon (1997) and Michaelidou and Hassan (2008) respectively. The responses are collected on a 5-point Likert scale where 1 = strongly disagree, and 5 = strongly agree.

4 STUDY RESULTS

Tab. 1 shows the descriptive statistics of all independent and dependent variables. The statistics included mean, standard deviation, composite reliability, and average variance extracted. The results showed that the internal consistency is significantly established as the values are above 0.70 for both samples.

Tab. 1: Descriptive Statistics

Variable	Mean	Std. Dev.	CR	AVE
Health Consciousness (HC)	4.18	0.55	0.93	0.64
Environmental Concern (EC)	4.08	0.35	0.92	0.66
Food Safety Concern (FSC)	4.10	0.70	0.94	0.70
Purchase Attitude (PA)	4.49	0.62	0.91	0.73
Subjective Norm (SN)	4.60	0.54	0.90	0.67
Perceived Behavior Control (PBC)	4.24	0.58	0.89	0.65
Purchase Intentions (PI)	4.20	0.71	0.83	0.65

Tab. 2 provides the correlation results of Pakistani sample. All the correlations are positive and significant. The results indicated that the highest correlation of health consciousness is with the subjective norm ($r = 0.335$) whereas the lowest correlation is with food safety concern ($r = 0.187$). The highest correlation of environmental concern is with purchase attitude ($r = 0.349$) whereas the lowest correlation is with subjective norm ($r = 0.287$). The highest correlation of purchase intentions is with health consciousness ($r = 0.335$) whereas the lowest correlation is with perceived behavioral control ($r = 0.183$).

Tab. 3 provides the correlation results of the Italian sample. All the correlations are positive and significant. The results indicated that the highest correlation of health consciousness is with the subjective norm ($r = 0.360$) whereas the lowest correlation is with food safety concern ($r = 0.187$). The highest correlation of environmental concern is with food safety concern ($r = 0.332$) whereas the lowest correlation is with the subjective norm ($r = 0.277$) and so on. The highest correlation of purchase intentions is with health consciousness ($r = 0.311$) whereas the lowest correlation is with perceived behavioral control ($r = 0.178$).

Since the scales of independent and dependent variables are taken from previous studies; hence confirmatory factor analysis is run using AMOS 18 to determine the validity of scales and model fitness separately for both cultures (Kline, 2010). The model fitness of Pakistani sample is $\chi^2 = 305.84$ with 98 df ($p < 0.001$, $\chi^2/\text{df} = 3.12$) while GFI = 0.93, NFI = 0.98, IFI = 0.92, CFI = 0.91 and RMSEA = 0.061 whereas the Italian sample's model fitness is $\chi^2 = 329.51$ with 108 df ($p < 0.001$, $\chi^2/\text{df} = 3.05$) while GFI = 0.95, NFI = 0.97, IFI = 0.91, CFI = 0.98 and RMSEA = 0.074. These statistics are indicating satisfactory results for discriminant and convergent validities for each sample.

In order to draw legitimate conclusions, measurement invariance tests are compulsory to the generalization of theories in cross-cultural contexts. Without checking these tests, the results might not be valid and flawed. The unbiased and complex method to check cultural – cultural differences is to run multi-group confirmatory factor analyses (Vandenberg and Lance, 2000). The measurement invariance is stated if the difference of model fit indices (CFI and ΔCFI) from two multi-group confirmatory factor analysis is between -0.01 to 0.01 (Cheung and Rensvold, 2002).

There are two methods to check measurement invariances among two different cultures. The first method is to check configural invariance through multi-group CFA. If the model shows adequate model fitness, then it represents that the data is coherent with the theory and conceptual framework across two cultures. Although χ^2 is significant (χ^2 (257) = 843.94) whereas the other fit indices (GFI = 0.90, RMSEA = 0.052, NFI = 0.94), IFI = 0.92, CFI = 0.93) are in accordance to given threshold. These results showed the strong model equivalence in both

Tab. 2: Correlation Results for Pakistan Sample

Constructs	HC	EC	FSC	PA	SN	PBC	PI
HC	1.000	0.336*	0.187*	0.258*	0.299*	0.276*	0.335*
EC		1.000	0.326*	0.349*	0.287*	0.305*	0.301*
FSC			1.000	0.308*	0.391*	0.346*	0.297*
PA				1.000	0.247*	0.170*	0.291*
SN					1.000	0.212*	0.248*
PBC						1.000	0.183*
PI							1.000

Note: * denoted to 0.001 significant level.

Tab. 3: Correlation Results for Italian Sample

Constructs	HC	EC	FSC	PA	SN	PBC	PI
HC	1.000	0.321*	0.225*	0.286*	0.360*	0.306*	0.311*
EC		1.000	0.332*	0.325*	0.277*	0.311*	0.299*
FSC			1.000	0.276*	0.354*	0.302*	0.235*
PA				1.000	0.308*	0.264*	0.227*
SN					1.000	0.272*	0.223*
PBC						1.000	0.178*
PI							1.000

Note: * denoted to 0.001 significant level.

cultures, and hence the configural invariance is proven. The next method is to run metric invariance test where a constraint is imposed on the base model and test the model fitness. Although χ^2 is significant (χ^2 (378) = 781.33) whereas the other fit indices (GFI = 0.92, RMSEA = 0.037, NFI = 0.92), IFI = 0.94, CFI = 0.92) are within the threshold proposed by the researchers. The CFI difference between configural model and metric invariance is −0.01 which indicated that the results are statistically equivalent and comparable in both cultures.

Structural equation modeling (SEM) is used to study the path coefficients of each hypothesis in Tab. 4.

Tab. 4: Model Fit Indices for Italian and Pakistani Sample

Construct	Italian Sample Factor Loading Range	Pakistani Sample Factor Loading Range
HC	0.83–0.74	0.82–0.77
EC	0.82–0.76	0.80–0.78
FSC	0.86–0.80	0.87–0.83
PA	0.84–0.82	0.85–0.79
SN	0.83–0.79	0.81–0.78
PBC	0.86–0.81	0.80–0.77
PI	0.79–0.78	0.81–0.72
Model Fit Index		
χ^2	329.51	305.84
df	108	98
χ^2/df	3.05	3.12
GFI	0.95	0.93
NFI	0.97	0.98
IFI	0.91	0.92
CFI	0.98	0.91
RMSEA	0.074	0.061

Tab. 5: Measurement Invariance Results for Cross-Cultural Examination

Model	χ^2	df	χ^2/df	CFI	RMSEA	Model Comparison	$\Delta\chi^2$	Δ CFI
M1: Configural	722.73	376	1.92	0.94	0.041	–	–	–
M2: Metric	824.20	399	2.065	0.93	0.047	M2 – M1	101.47*	−0.01

Tab. 6: Regression Results through SEM

Independent Variable	Dependent Variable	Standardized Beta Weights Italy	Standardized Beta Weights Pakistan
Health Consciousness	Attitude	0.39*	0.30*
	Subjective Norm	0.41*	0.42*
	PBC	0.38*	0.38*
Environmental Concern	Attitude	0.45*	0.42*
	Subjective Norm	0.36*	0.40*
	PBC	0.34*	0.34*
Food Safety Concern	Attitude	0.46*	0.32*
	Subjective Norm	0.29*	0.39*
	PBC	0.43*	0.43*
Attitude	Purchase Intentions	0.43*	0.38*
Subjective Norm	Purchase Intentions	0.38*	0.34*
PBC	Purchase Intentions	0.40*	0.43*

Note: * denoted to 0.001 significant level

The results revealed that the health consciousness ($\beta = 0.39$), environmental concern ($\beta = 0.45$), and food safety concern ($\beta = 0.46$) has positive and relatively stronger impact on purchase attitude among Italian sample as compared to Pakistani sample [for health consciousness ($\beta = 0.30$), environmental concern ($\beta = 0.42$), and food safety concern ($\beta = 0.32$)]. When we take subjective norm as dependent variable, the results showed that health consciousness ($\beta = 0.42$), environmental concern ($\beta = 0.40$), and food safety concern ($\beta = 0.39$) has positive and relatively stronger impact on subjective norms of Pakistani respondents as compared to Italian consumers [for health consciousness ($\beta = 0.41$), environmental concern ($\beta = 0.36$), and food safety concern ($\beta = 0.29$)]. The TPB dimensions also have positive impact on purchase intentions for both samples. Hence, the results revealed that all hypotheses are accepted and also find significantly difference between two cultures.

5 CONCLUSION AND RECOMMENDATIONS

In this study, the impact of health consciousness, environmental concern, and food safety concern have been determined among Italian and Pakistani consumers. Moreover, this research also explores the influence of TPB dimensions on purchase intentions. Consistent with previous findings, the results revealed the significant relationship of food safety concern, environmental concern, and health consciousness on the purchasing attitudes towards organic food in both samples (Lee et al., 2015; Çabuk et al., 2014; Smith and Paladino, 2010; Magnusson et al., 2003; Honkanen et al., 2006; Michaelidou and Hassan, 2008). Also, the study findings also demonstrated the TPB dimensions has a positive influence on purchase intentions for both samples, similar to previous results (Michaelidou and Hassan, 2008; Lodorfos and Dennis, 2008; Lee et al., 2015; Gracia Royo and de Magistris, 2007). Based on these results, it

is evident that the theory of planned behavior strongly influenced the buying intentions.

The changing in eating preferences among consumers, the retail businesses got a crucial opportunity to expand their market in organic food. The antecedents of TPB has positive influence on consumers' buying intentions towards organic food. This finding is coherent with Ajzen (1991) theory. Although, the TPB theory is considered as they relevant model that predict the different behavioral intentions, but the researchers claimed that the results are not always consistent because it depends on the situations and behaviors (Jasper and Waldhart, 2013). For instance, the results of Shim et al. (2001), Çabuk et al. (2014) and Njite and Parsa (2005) found attitude as stronger predictor of behavior but in specific situation. Additionally, Lee et al. (2015) and Tarkiainen and Sundqvist (2005) proposed that the purchasing attitude influences the consumer's behavioral intentions. But, some studialso find unclear relationship between attitude and purchase intentions (Lin and Chen, 2009).

The next dimension of TPB is subjective norms on which researchers argued that it is the weakest influence on buying intentions (Sparks et al., 1995). In contrast, the current study demonstrates subjective norm as well as attitude as strong predictor of purchase intentions towards organic food. Armitage and Conner (2001) claimed that the researchers mostly used single-item construct to measure subjective norms that decreases the predictive power of the construct and also considered as inadequate measurement. The meta-analytical study of Armitage and Conner (2001) concluded that multiple-items construct of subjective norm has strong relationship purchase intentions when compared to single-item construct.

In spite of the significance of this study for an organic food market in both countries, this study also has some important limitations which should be undertaken in future research studies. Firstly, the sampling size and convenience sampling have foiled the generalizability of the results to the population. Hence, the future studies should increase the sample size and collect the data through probability sampling technique to get generalizability. Secondly, only food safety concern, environmental concern and health consciousness are taken as motivating factors to predict attitudes and purchase intentions. In order to expand more in-depth understanding of consumer behavior towards organic food consumptions, future studies should take quality, ethics, fashion, nostalgia, local economy status, animal health and taste into consideration. Finally, the future studies should incorporate mediating variables in said relationships.

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7 ANNEX

Tab. 7: Study Questionnaire

Scale	Measuring Items	Author(s)
Attitude	Purchasing organic food is useful Organic food offers better quality than conventional food I am strongly in favor of buying organic food	Bredahl (2001)
Subjective Norm	Those who are influential on what I do and think recommend my buying organic food The majority of people who are important to me will help me purchase organic food Most people who are important to me think positively of my buying organic food	Bredahl (2001)
PBC	I can afford time and money to purchase organic food Purchasing organic food depend mostly upon to me If I wanted to organic food, I could access it any time Purchasing organic food is easy	Bredahl (2001)
Purchase Intentions	I definitely intend to buy organic food I recommend that others buy organic food I will try to purchase organic food in coming months I would purchase organic food if I could find it easily	Pliner and Hobden (1992), Bredahl (2001)
Food Safety Concern	Conventional food products are less safe to eat Consumers want more organic produce Organic foods are worth paying extra for Consumers are willing to pay more for organic produce Organic products taste better than non-organic products Organic food offers more benefits to consumers The quality and safety of non-organic food nowadays concerns me	Hammitt (2000), McEachern and McClean (2002), Michaelidou and Hassan (2008)
Environmental Concern	The balance of nature is very delicate and can be easily upset. Human beings are severely abusing the environment. Humans must maintain the balance with nature in order to survive. Human interferences with nature often produce disastrous consequences.	Roberts and Bacon (1997)
Health Consciousness	I reflect about my health a lot I'm very self-conscious about my health I'm alert to changes in my health I'm usually aware of my health I take responsibility for the state of my health I'm aware of the state of my health as I go through the day	Michaelidou and Hassan (2008), Squires et al. (2001)

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