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housing in Nigeria

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## Sustainable and affordable housing in Nigeria

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### Abstract

*Access to adequate housing has long been viewed as a basic human right. It is considered as an integral part for the realization of other economic, social and cultural rights.*

*According to the United Nations (UN) Committee on Economic, Social and Cultural rights(CESCR), satisfactory housing consists of legal security of tenure, availability of accessible services, facilities and infrastructure, habitability, accessibility (e.g access to employment, health services, schools, shopping malls), cultural adequacy and affordability.*

*Housing affordability continues to be a major limiting factor for home ownership at the bottom of the income pyramid in Nigeria. Nigeria has continued to face enormous housing challenges and gaps are being recorded in the face of geometric population growth, dwindling revenue from oil, composite disposable income, purchasing power parity of the Naira and the attendant cost of construction of housing units. According to a new report, Nigeria has a deficit of between 16-22million housing units, This, as Ashkin (2013) puts it require an investment of circa \$600 billion based on an average house price N5million (\$13000, at the official exchange rate of N383/\$1 USD).Similarly, Ayedun, andOluwatobi(2011) noted that only 10 percent of Nigerians can afford their own house either by house purchase or personal construction as compared to 72 percent in the United States, 78 percent in the United Kingdom, 60 percent in China, 54 percent in South Korea and 92 percent in Singapore.*

*In view of this development, and to consistently address housing gaps in Nigeria , there is need for a paradigm shift. According to UN Habitat: The proposed paradigm shift will change the way housing has been addressed as an isolated product in the form of housing estates. This change will be achieved by utilizing national urban policies, urban planning and urban design as well as urban economy and legislation as the essential entry points. The aim is to integrate housing in the urban fabric with other uses, to integrate different economic groups, at appropriate densities to achieve better mobility, and to reduce the urban footprint, to ensure environmental sustainability as well as taking social and cultural needs into account through participatory approaches. This research project is currently in progress.*

### Keywords

*Housing, sustainability, affordability, housing delivery, housing gaps, adequate housing, private and institutional developers.*

### Introduction

Housing all over the world has remained an interdependent phenomenon that affects every part of human endeavour.

Housing has been universally acknowledged as one of the most essential necessities of human life and is a major economic asset in every nation. Adequate housing provides the bedrock for stable communities and social inclusion (Oladapo, 2006). Konadu Agyemang et al (1994) have established a strong correlation between housing, good health, productivity and social economic development. Abraham Maslow's Hierarchy of Needs also groups shelter (housing, see schematic below) as part of safety needs. The import of housing is so pronounced that it impacts the social, physical and mental wellness of man irrespective of his social status, colour or creed.

In spite of the importance of housing to mankind, there is however a shortage of needed housing units relative to supply in most developing countries including Nigeria where the population growth rate and urbanization are rapidly on the surge – there is a huge delta between housing demand and corresponding supply in most major Nigerian cities.

A United Nations study revealed an estimated normative figure of 323 million for the entire world between 1970-1980. The developed countries required 90 million units whilst the rest of the world required 233 million. It is against this backdrop that delegates to the 1976 United Nations Conference on Human Settlements in Vancouver Canada demanded a paradigm shift and a more radical and pragmatic approach on housing policy reforms and implementation with a view to address the hydra-headed problem particularly the dire concerns of developing countries. The housing policy reform was expected amongst others have a strong political and financial will by governments to enable housing inclusion amongst the poorest and most vulnerable citizens globally. In Nigeria, like many other developing countries, this project has not been effectively implemented since the 1976 delegates' conference.

Nigeria has witnessed a litany of failed attempts at addressing the myriad of problems confronting housing especially during the era of military dictatorship spanning the 1960's and 1990's. In a similar vein, the civilian government that came into existence in the 1990's inherited a serious problem of housing inadequacy resulting from years of neglect, undeveloped housing finance system, limited long term funds, high interest rate on mortgages, high cost of land, building materials, poor planning of housing policies and programmes and administrative bottlenecks which make processing and securing building approvals, certificate of occupancy and other necessary government permits very difficult and the unmitigated corruption in the allocation of government lands within the framework of the Land Use Act, Cap 202, LFN1990 (Ogwu, 2006, Akomolede, 2007 and Onyike, 2007).

The problem is further compounded by the high incidence of corruption in other key sectors of the Nigerian economy and the absence of political will by successive governments to deal with the peculiar housing conundrum.

There is also the challenge of conflict of interest amongst key stakeholders-mainly the funding institutions, developers and the end users. The profit maximization drive of developers and funding institutions tend to conflict with the affordability aspect of housing consumers especially the low income earners (Draft Housing Policy, 2004) with the government which is ought to play an active role in boosting housing provision in the country.

The current population of the country is estimated at over 140million ( National Population Census, 2006) and still increasing at a growth rate of 3.2% as a result of which the country has a very large and incremental housing deficit which stood at 8 million housing units in 1991 and between 12 to 14 million housing units in 2007( Akeju , 2007, Aikhorin ,2008) while a more recent estimate put the figure at circa 17 million (according to Olusegun Adeniyi of Federal Mortgage of Nigeria cited by Sombo, 2007, Uroko and Akintola , 2008) . At an average cost of N2.5million per housing unit , the country would require a whopping 42.5 trillion Naira housing deficit of 17 million units.



(Source: Professional Academy, 2020)

## Background

Affordable and sustainable housing is a right for all citizens. It is also viewed as a key indicator for sustainable development in most communities. Generally sustainable development is grouped into three sections ; social , economic and environment.

From the social perspective , housing does not only provide shelter but also offers a sense of protection to a community. Home ownership is also a morale booster that enhances an individual or family's social status. From an economic perspective , the developing of housing units generates significant contribution to the construction industry sector and leads to increase in Gross Domestic Product (GDP) year by year. From the environmental lens, housing should be liable to reduce the negative aspects of green house effect and carbon sink , optimize energy usage and efficiency , materials and waste management. As population continues to increase significantly in Nigeria , the demand for housing for particularly those in the low and medium bracket continues to surge. It has therefore become problematic for these group to own affordable houses on sustainable basis. Houses should be built and equipped with all the ancillary facilities.

## Literature Review

According to the United Nations- Habitat (World Habitat Day report, 2020) , it is estimated that 1.8 billion people live in slums and informal settlements, or in homelessness in our cities worldwide. The numbers are seemingly increasing and the vast majority can be found in Sub-Saharan Africa such as Nigeria.

In 1996, the United Nations had put the global urban population at circa 60 million between 2001 and 2012, this figure increased by one and half percent .In Sub-Saharan Africa which is largely rural, only 33 percent of the population live in urban areas. There is a very high population growth rate of up to 4 percent. According to Enisan (2007), the rate of urbanization in Nigeria has been on the increase in the last two decades.

Okupe( 2002) noted that in the 1930's only 7 percent of Nigerians lived in the urban center and 10 percent in the 1950's but by 1970, 1980 and 1990, 20 percent , 21 percent and 35 percent lived in the cities respectively. However, in recent time, over 40 percent of Nigerians now live in urban centers of varying sizes, this has created severe housing problems resulting in overcrowding, inadequate dwellings and in a situation in which 10 percent Nigerians are said to be homeless ( Enisan , 2017). This has created intense pressure on social services and urban infrastructure such as transportation , electricity , potable water supply and health services . The rural -urban drift and migration towards urban settlements in Nigeria have resulted in over population and constraints in major cities like Lagos, Ibadan, Kano and Port Harcourt.

According to Abrams (1964) and Jiboye ( 2011) and Amao ( 2012) , the growth pattern in the urban centers has outstripped the capacity to maintain acceptable standards of public health , physical infrastructural development, environmental safety and healthy living environment and government's ability to provide services for sustainability . This has undoubtedly impacted housing quality adversely. Additionally , housing stock in Nigerian cities are grossly inadequate and the corresponding urban population has resulted in uncontrolled overcrowding and unplanned settlements culminating into settlements ill- equipped for human habitation especially in large cities like Lagos and Ibadan.

Housing affordability has economic , social, spatial , environmental and design implications (Halliday, 2002; Gabriel, Jacobs, Arthurson, Burke and Yates , 2005). Housing impact on other social and economic issues and behaviors and employment, health, transportation , community sustainability, urban and regional development. Housing affordability is related to the cost of housing either as ownership or in rent. According to the International Labour Organization (2020), housing is a human right , however, about 4 billion do not have social protection or safety nets globally.

In the past, in recognition of the global housing need and consequent homelessness in most countries, the United Nations Center for Human Settlement (Habitat) had inaugurated a World Habitat day in 1987 with the theme "Shelter for the Homeless". The central thrust of the discourse was a deep-dive on the plaque of global poverty and homelessness and to encourage various national governments to pay rapt attention to alleviate the needs of the citizens ( United Nations Center for Human Settlement, 1993).



According to Mabogunje (2004):Ezegwe(2005) in Nigeria, Ezegwe et al (2015) , the existing housing stock is 23 per 1000 inhabitant and housing deficit of between 15-17 million while 12 trillion will be required to fund 15 million housing units . The Federal Housing Authority( 2007) noted that this is about four times the annual national budget of Nigeria.

As part of Nigeria's national development plan , all citizens are expected to have access to relative decent and affordable housing.

In the light of the foregoing, the country initiated and established a National Housing Policy with the aim of providing an institutional framework for ensuring adequate housing with quantitative and qualitative ( Adeshina and Idaeho, 2019). In spite of these efforts , no significant success has been made to meet the housing needs of the growing population in Nigeria ( Jiboye , 2011, Emediafe, 2015, Adeshina and Idaeho, 2019), every individual needs housing, thus housing is a significant component of the social dimension of sustainable development in Nigeria( National Affordable Housing Association , 2016). However, a large population of Nigerians still live in sub standard makeshift dwellings. Thus , there is need to ensure decent and affordable shelter to the people , especially urban poor is integral to the improvement of their living standards and a panacea for sustainable housing in Nigeria.

The main thrust of this paper is to identify the major challenges and prospects towards achieving affordable and sustainable housing in Nigeria.

#### Sustainability in Affordable Housing Provision

The term affordable housing can be described in different context . It refers to any type of housing ( market or non -market provided) that is rented or purchased at a price that is not beyond the financial capacity of a household.

Definition of housing cost typically include expenditure on rent or mortgage payments on rates , property taxes , household , insurance, repairs and maintenance where these are the responsibility of the resident . Other costs which may be related to housing such as utility payments are considered by some but not all researchers regard them as costs (Gabriel et al , 2005).

The notion sustainability is very broad and used in different ways by different researchers . The World Commission on Environment and Development defined sustainable development as meeting the needs of the present without compromising the ability of future generations to meet their own needs ( WCED1987, P.8). In the context of housing , Pruemius ( 2005, p.5) defines sustainability as the minimization of negative impacts of housing development on the environment as well as social impacts . Yates et al ( 2008, page 8) takes a system view point , defining a sustainable housing system as that which is fiscally sustainable and allows successive generations to gain access to appropriate and affordable housing . In business literature , the concept of triple bottom line is defined as an approach which measures successful projects and organizations by not looking at the financial bottom line but also the social and environmental impacts of their activity ( Norman and Mc Donald , 2004, pg 243).

## Key Findings and Strategies for Addressing Gaps in Nigeria

Nigeria is presently confronted with a large deficit of housing requirements , a very high occupancy ratio in most cities , lack of basic infrastructural facilities such as potable water supply , solid waste management amongst others.

High cost of construction negatively impacts household savings, stimulation of the economy through job creation and wages, purchasing power parity, consumption capacity and property taxes( inheritance, capital gains, capital transfer and withholding). The menace of sprawling slums in urban and peri-urban areas in city centers is the direct consequence of incremental cost of construction . The value chain fundamental of housing production are an important aspect of the explication of affordable or low cost housing debate (World Bank 2015).

A critical assessment highlights the underlisted as some of the factors impeding sustainable and affordable housing in Nigeria:

- 1.Escalating cost of building materials
- 2.Lack of access to low interest housing finance and bridging finance on case-case basis.
- 3.Lack of rebate for imported building materials
- 4.Low purchasing power parity emanating from low emolument by public servants
- 5.Lack of political will and commitment by successive governments
- 6.Total absence of some tiers of government and institutional investors in housing delivery .
- 7.High profit driven mentality by private developers
- 8.Access to Land and legal bottlenecks
- 9.Apathy towards the use of alternative building materials and underfunding of housing research institutions
- 10.Lack of public infrastructure by all tiers of government to encourage and create the enabling environment for housing delivery
- 11.Corruption and overpricing of contract sum for public housing projects .
12. Poor planning indicators leading to abandoned housing project in some urban and peri urban locations .
13. Land banking and speculation
- 14.The need for land reform and advocacy to engender housing sustainability

In order to consciously and intentionally address the housing gaps , the following issues need to critically re-evaluated as an opportunity.

### Building Materials for housing construction

Most building materials used in home delivery are import dependent.Though cement factories operate locally , they also increase prices regularly because of raw materials

that are imported which foreign exchange component. The country continues to face headline inflation which ultimately affects the prices of building materials adversely.

It is regrettable that local building materials such as burnt bricks and other roofing materials are not patronized by end users. The apathy and low patronage results in high production cost since there is no competition to achieve economies of scale.

#### Land Reform and Advocacy

The national land policy , Land use Act which was promulgated in 1978 during the military era with the strategic intent of enabling land accessibility to all Nigerians has ended up becoming an albatross and not an enabler. Stakeholders and built environment professionals continue to agitate for the review of the extant law. The law was put in place to streamline the diverse land tenure system across in the country by vesting the ownership of the land to all lands in the Governor( Power of Eminent Domain) and the Minister of the Federal Capital Territory for the purpose of sustainable land management and administration.

However, the contentious issue of Governor's consent for any subsequent transaction on land the intractable bureaucracy and other administrative bottlenecks significantly make land acquisition significantly expensive in most urban neighborhoods.

#### Housing Funding Model

In many parts of the world , most especially the developed countries , the major source of funding is from government , individual savings , life insurance and pension reserves , commercial banks , primary mortgage institutions , building societies , institutional investors , thrift and loan cooperatives.

However, in Nigeria, the main source of finance is through the personal savings of individuals and a few multinational corporations. Private enterprises also continue to contribute their margin , albeit in trickles. The bulk of the housing stock across the country are constructed by private initiative and individuals who invest in housing for rental income or leverage on the build to sell model. It is common to embark on piece meal construction approach or outright purchase of off -plan or finished homes as against mortgage lending.

Commercial banks , insurance companies and other institutional investors have not played significant housing delivery in Nigeria. The Nigeria mortgage system is still underbanked by prospective home - owners when compared to some countries like United Kingdom, South Africa, United States of America , Canada and countries in the European Union.

In Nigeria, insurance and pension companies have not forayed into housing development schemes in spite of having access to long term funds.

There is need for total re-engineering of the Federal Mortgage Bank, the National Housing Fund and the integration of the primary mortgage institutions into the activities as a special purpose vehicle for housing delivery.

There is need for the reduction of interest rates on mortgage loans in the monetary policy guidelines moderated by the Central Bank of Nigeria in order to drive

competitiveness and financial inclusion that can be channeled towards increasing the housing stock.

### Housing Research

Nigeria's economic complexity index is alarmingly poor (134 out of 137 countries ranked globally, Human Development Indices and Indicators, United Nations Development Programme, 2018), there is a connect between economic complexity and research in housing especially in the area of developing local technology, transfer and investment in the research of alternative building materials that are produced locally.

Nigeria's research and development initiatives would require glocalization – adopting global best practices towards developing local home grown solutions premised on research, capacity building and migrating knowledge.

Transparent data for planning purpose is also required. Professional bodies such as Estate Surveyors and Valuers, Architects, Builders, Quantity Surveyors and Town Planners and the academia need to form a housing research Think-tank with building materials research institutes and constantly establish models for costing and materials standardization to drive efficiency and boost productivity of the housing sector.

### Housing Laws

Most states in Nigeria currently experience legal restraints which does not engender rapid development. The country's law is enshrined in the land use act. Land titling and documentation and the implication of the country's proprietary interest as being practiced differs from local traditions in -country. Building laws and development control provisions are designed and enforced in such a way that they inhibit housing construction.

Legally and economically, the mortgage instruments in operation in the country are still very convoluted making access to funds very challenging. The laws need to be reviewed and amended to be more solution driven.

### Housing cost and the Minimum Salary Debate

There is a significant disparity between housing cost, building materials and the minimum wage earned by public servants working for government and some workers in the informal sector in 2021. While the average headline inflation is circa 17 percent (National Bureau of Statistics, 2021) and continues to affect disposable income and purchase power parity, the minimum wage is still US \$78 per month. Most states in Nigeria have refused to pay, some are drawn in protracted labour disputes with labour unions.

The narrative above makes access to affordable housing almost beyond reach.

The introduction of the National Housing Fund over two decades ago has not empowered most Nigerians to own houses of their own due to conditions precedent to the accessibility of the fund. One of the conditions is for prospective loan applicants to have saved at least 25 percent of the total cost of the house desired. This will remain an illusion with the minimum wage quagmire. Thus, addressing the problem of accessibility would require the review of the National Housing Fund to achieve impact

penetration as a housing intervention model that bridges the gap between savings and borrowing.

### Housing Education

It is important for stakeholders to be knowledgeable in the housing value chain. Primarily, it ensures there is a common purpose and opportunity to build strategic synergy that will ultimately engender sustainability. It will ensure that key actors are familiar with the economic, legal, political and regulatory and governance structures controlling the housing industry and the market. The education and enlightenment platform transcend orthodox training, it entails understanding the dynamics of the art and science of living the home and community.

### Inclusion

Socially inclusive housing is located in sites that provides residents with sites with good access to transport as well as local amenities and services. It provides residents with a voice in decisions that their homes such as facility management. Inclusive forms of affordable housing should provide opportunities for social connections and interactions across cultural and socio-economic differences.

Being socially and economically connected means access to jobs, services and social networks (Hayes et al, 2008). One of the overarching objectives of increasing the supply of well situated affordable housing is to improve such access to tenants as well as respond to labour shortages on low-medium paid jobs in locations (Berry, 2008).

### Public Private Partnership

A public-private partnership is a cooperative arrangement between two or more private sectors typically of a long term nature (Wikipedia.org). The seemingly advancement of the PPPs as a concept and practice is a product of the new public management of the late 20<sup>th</sup> century and globalization pressures. It has been used in several countries to deliver successfully in the delivery of infrastructural projects – schools, hospitals, railways, roads amongst others. It is increasing finding space in the construction industry and increasing used to drive mass housing.

In Nigeria, the Private Public Partnership in most cities is still at infancy, it will be a useful tool to boost the housing stock where government is able to use efficiently the power of eminent domain to acquire land for overriding public interest and institutional or private developers contribute funding and project management expertise to deliver housing projects at affordable prices to low and medium income earners based on Joint Venture Memorandum using a special purpose vehicle in most instances.

### Conclusion

This paper has reviewed literature on the housing gap in Nigeria which continues to impede affordable and sustainable housing. The study identified the housing conundrum from key findings and highlighted opportunities and prospects that will reshape the housing situation and engender sustainability. It justifies the urgent need and attention for land reforms, review of existing funding interventions and financial inclusion, legal instruments supporting proprietary ownership, investment in sustainable alternative local building materials to mitigate import dependency amidst scarce foreign exchange

and the need for deeper collaboration that can be achieved through Public -Private Partnership especially in most urban settlements.

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## Capital structure and firm efficiency: Does firm size matter

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### Abstract

*Capital structure and firm's efficiency have been one of the major topics discussed in corporate financial parlance due to its importance for the survival and sustainability of firms. Several theories such as the pecking order theory, trade-off theory, agency cost theory, and capital structure irrelevant theory have been employed to delineate the relationship between capital structure and firm efficiency. This study examined the moderating effect of firm size on capital structure and firm efficiency of listed firms on the Nigerian Stock Exchange. The data for eighteen (18) financial firms and forty-four (44) non-financial firms was obtained for the period 2010 and 2017. For this study, the panel fully modified ordinary least square method (PFMOLS) was employed because all the variables are stationary at a first difference and are cointegrated. More so, the PFMOLS can rectify the problem of serial correlation and heteroscedasticity and give an optimal estimate. The outcome of the study revealed that firm size has a moderating effect on the relationship between capital structure and efficiency of non-financial firms, while it has no moderating effect on the relationship between capital structure and firm efficiency of financial firms in the country.*

*Keywords: Capital Structure, firm size, firm efficiency, financial firms, non-financial firms*

### Background to the study

Capital structure remains one the most vastly researched topic in the field of finance and accounting since first postulated by Modigliani and Meyer in 1959. As opined by Dada & Ghazali, (2016) capital structure can be referred to as the financial framework which explains how equity and debts are employed in funding the operations of a firm to achieve its goal with a weighted cost of capital that will lead to maximization of the firm's value. Owolabi and Inyang (2012) argued that capital structure plays a significant role for a firm to actualize its major goal which is the maximization of shareholders' wealth. They further reiterated that a wrong mix of finance can hinder the operations of the firm in realizing its goals which are not limited to maximization of shareholder's wealth but also enhancing its market value and continuous existence till perpetuity while guiding its exposure to financial loss.

Besides, Ahmad, Abdullah, and Roslan (2012) elucidated that determining an optimum and adequate capital is significant to achieving firm efficiency, profitability, survival, and ultimate going concern of a firm. This is corroborated by Dare & Sola, 2010, Ndulue, Ekechukwu & Opusunji, (2019) who opined that the development of an optimum capital structure is significant to yielding an optimum return on investment, thus maximizing the value of the firm and improving its efficiency.

According to Uremadu and Efobi (2012); Acaravci (2015), the concept of the equity-debt mix remains one of the most multifaceted and vital issues for firms in decision-making, as such have both strategic and longstanding effects on the efficiency of the firm. Sritharan, Vinasithamby (2015) define firm size as the capability and ability of a firm in terms of production or the number and arrays of services it can offer its customers. They further elucidated that a firms' capability can be optimized by understanding the factors that determine its efficient performance. This implies that research on the significant influence of firm size on capital structure and efficiency is of great importance to a firm's growth and sustainability. Currently, the challenge posed is the ability of a firm based on its size to determine and manage an optimal equity/debt mix which enhances its efficiency and value. It is worthy to note that the efficiency and survival of a firm may be adversely affected by the adoption of a wrong mix of finance.

Despite much attention received from finance managers and researchers on capital structure and firm efficiency, the outcomes remain mixed and inconclusive. Furthermore, there is a dearth of literature on the significance of firm size on capital structure and firm efficiency. For capital structure research outcomes to be relevant in emerging economies like Nigeria which is mostly characterized by medium and small firms; the study needs to encompass an array of firms that are not limited to large and a particular sector but all sectors.

Emerging markets like Nigeria need inclusive evidence-based studies which will assist her industrialization in order to gainfully employ her growing and teeming population of youths to the benefit of the nation. This will assist the nation in achieving one of its sustainable development goals which is industrialization through the promotion of indigenous firms'; paving ways for socio-economic inclusion which is an enabling factor for economic growth and stability.

In order to answer the puzzling question, which is the motivation behind this study (Capital Structure and Firm Efficiency: Does Firm Size Matter?) and comes up with an evidenced-based outcome to the benefit of all indigenous firms, there is a pertinent need for holistic firm inclusion in our data set encompassing all sectors listed on the Nigerian Stock Exchange. This study made a paradigm shift from the previous studies by investigating the moderating effect of firm size in the link between capital structure and firm efficiency using a robust and firm inclusive set of data which covers manufacturing, non-manufacturing, small, large listed on the floor of the Nigeria Stock Exchange.

The listed firms on the Nigerian Stock Exchanged are used for more reliability of data for a better and more reliable outcome. Therefore, this paper contributes to the number of extant studies, providing empirical evidence from the Nigerian economy's perspective, hence introducing new insights into the generalization of earlier findings within this research area, across different countries and continents.

## Literature review

### Review of Theories

The irrelevance theory of capital structure based its assumptions on the perfect capital markets in contrast to the other four major theories of capital structure which are agency cost theory, market timing theory, static trade-off theory, and pecking order theory. For



instance, according to the trade-off theory, there is a trade-off between the benefit and cost of using debt and equity. The theory posits that firms maximize their value when the benefits that stem from debt equal the marginal cost of debt hence the need to take a critical financing decision on how much debt and equity to employ by balancing the costs and benefits. The theory recognized both the advantage (tax benefit) and cost effect (the bankruptcy costs and the financial distress costs of debt) of debt financing.

The theory posits that there is an inverse relationship between debt and marginal benefit of debt while there is a direct relationship between debt and the cost of debt. This means that the marginal benefit of debt increases as debt declines, while the marginal cost increases as debt increases. In the trade-off theory, the optimal capital structure is achieved by the firm by utilizing the best mix of debt-to-equity ratios. However dynamic trade-off accommodates variation in leverage as the need arises. According to Evan, D 2007, under dynamic trade-off theory firms allow their leverage ratios to vary within an optimal limit.

The next theory is the pecking order theory of capital structure which was made known by Donaldson in 1961 but modified by Myers and Majluf(1984). They introduce the hierarchical choice of financing namely:

- internal financing via the profit generated by the firm
- external financing via debt issue and
- external financing via equity finance

They posit that hierarchical financing help to reduce the abnormality of information between management and external stakeholders specifically the stockholders and opined that there is a higher level of information asymmetry to equity than debt. However, priority was given to internal financing over external financing making equity the last financing choice due to the information asymmetry that exists between managers, shareholders, and investors. Hence, internal funds in terms of retain earnings are used first, then debt (costly because capital and interest would be repaid regardless of the firm's financial situation) but when issuing more debt is of less benefit to a firm, then equity is issued.

It is imperative to bring to bear that the major relevance theories of capital structure (static trade-off and pecking order) were not able to guarantee the best capital structure policy (Liu, 2005). STT emphasizes optimal leverage that brings tax advantage and at the same time shield the company from financial distress while POT emphasizes the priority in utilizing internal and external funding (Setyawan, Ignatius & Frensidy, Budi. (2013). The emergence of Market Timing Theory (MTT) by Baker and Wurgler (2002) is expected to assist finance managers of both small and big firms in achieving optimal capital structure decisions. Market timing theory derives its relevance from the issuance of equity. Hence, it opined that the capital market and some macroeconomic conditions within a country could affect the capital structure of the companies listed on its exchange. The theory argues that the resultant continuous fluctuation in the prices of equity has a resultant effect on the capital structure of a firm. Hence, the need to consider the overvalued or undervalued stock price as part of the determinants factors influencing the optimal debt-equity mix.

This theory brings to bear that the prevailing capital structure is the past aggregate result of the firm's experience, under the equity market. Thus Baker and Wurgler

presented the market timing measure as a past external capital weighted average using the market to book value of the firm. They conclude that changes in leverage have a positive relationship with market timing measure and assert that the capital structure of the firm is the cumulative result of past attempts. As propounded by Jensen and Meckling (1976) agency cost theory asserts that the reason for disagreement between debt holders, managers, and shareholders is the debt factor.

Managers prefer investing excess cash flow instead of returning it into the hands of shareholders in form of dividend payment even though that seems to be the better option (Stulz, 1990). This implies that the principal and the agent have diverse interest and as such the principal can only make the agent act on its interest by incurring a cost called agency cost which arises as a result of monitoring. It is important to note that the higher the level of control, the higher the cost of monitoring to time the equity market and by implication the higher the agency cost.

An increase in leverage is seen to be a good way of making the agent act rationally and consequently in the interest of the principal as an increase in leverage leads to an increase in interest expense. Hence, firm managers are constrained to only invest the available fund in a project with positive NPV which will yield a return that is in excess of their debt obligations. It is imperative to note that the higher the leverage, the lower the credit rating of the firm and the higher the cost of capital as investors will demand a higher return on their capital. The important puzzle that needs to be unraveled in the field of finance is the reduction of agency costs between shareholders, managers, and debt holders.

#### Review of Empirical Literature

The study of capital structure, its determinants, and its effect on firm efficiency has remains a topical issue in the field of finance both among policymakers and scholars. The way a firm constitute its capital structure (financing decision) can by implication have short and long-run implications on its survival. The rate of failure of top firms in recent times has shown capital structure decisions, if not properly taken and executed, can lead to the dissolution of the firms. This section first reviews the empirical literature between capital structure and firm efficiency; among firms in both developed and emerging market to enable us to answer the research question and lay the matter to rest. Quite a number of empirical studies have examined the link between capital structure and firm efficiency. One of such study is the one conducted by Margaritis and Psillaki (2010) who examined the effect of the equity-debt mix on firm efficiency of French manufacturing companies using a quartile regression approach. The outcome of the study supports the agency's cost hypothesis, which states that high leverage is linked with high efficiency between capital structure and firm efficiency both in developed economies and emerging economies.

Manawaduge, Zoysa, Chowdhury, and Chandarakumara (2011) investigated whether the capital structure affects firm efficiency of one hundred and fifty-five Sri-Lanka firms, whom are members of the stock exchange. The conclusion of the study showed that capital structure affects the efficiency of firms adversely. The study also found firms in Sri Lanka deploy more short-term debt in financing their operation against the use of long-term debt. Khan (2012) explored the effect of leverage on firm efficiency in India for the period 2005 and 2010, using 438 firms who are members of the Indian stock

exchange. The research outcome based on data analyzed revealed leverage does not affect the efficiency of the firm.

In contrast, the study conducted by Antwi, Mills, and Zhao (2012) used thirty-four quoted firms on the Ghana stock exchange in 2010 and used the ordinary least square (OLS) technique showing capital structure enhances the value of the firm positively. The study thus recommends that before firms decide on the choice of finance, they have to compare between the marginal cost and marginal benefit before using long-term debt. Furthermore, Javed and Akhtar (2012) study on the link between capital structure and firm efficiency of twenty-one sectors on the Pakistan stock exchange highlighted that capital structure positively affects firm efficiency for the period 2004 and 2008. Cuong and Canh (2012) study on capital structure and firm efficiency of seafood processing companies in Vietnam showed that for the period 2005 and 2010, when the debt level is below 59.27% (threshold), debt financing will increase the value of the firm. The study used a panel data approach.

Rajendran and Nimalthasan (2013) study on capital structure and firm efficiency of 25 Sri-Lankan manufacturing firms for the period 2008 and 2012 confirmed that leverage is not correlated with firm performance. Besides, the study concluded that capital structure has no significant effect on firm performance. Using a panel least square regression, Similarly, research findings by Park and Jang (2013) also showed that capital structure enhances firm efficiency. Rizqla and Sumiati (2013), using fifteen manufacturing firms that are members of the Indonesia manufacturing firm, indicated that leverage affects firm value for the period 2006 and 2011.

Besides, Muhammad, Shah, ul Islam (2014), investigated the effect of capital structure on the efficiency of firms who are members of the Pakistan stock exchange for the period 2009 and 2013, indicated the debt-equity ratio positively affects firm efficiency. In contrast, debt to total assets has an adverse effect on firm efficiency. The study used twenty-five cement companies that are members of the Pakistan stock exchange. Javed, Younas, and Imran (2014) employing a fixed effect model documented that for the period 2007 and 2011, leverage affects firm performance positively of sixty-three firms that are members of the Pakistan stock exchange.

Zeitun and Tian (2014) investigated the effect of capital structure on firm efficiency of Jordan companies for the period 1989 and 2003 and reported that leverage has an adverse impact on firm efficiency. The study also revealed short term debt to total assets, positively affects market performance. The number of firms examined in the study was 167 listed firms in Jordan. Kipesha and James (2014), used a panel data estimation technique and explored the link between capital structure and efficiency of the firm of deposit money banks for the period 2007 and 2011. The research findings indicated deposit money banks in Tanzania employ more debt financing than equity financing. The study also revealed that capital structure affects firm efficiency adversely. The study used a total of thirty-eight banks in the study. Twairesh (2014) employed the fixed effect technique and investigated whether capital structure had any influence on the efficiency of seventy-four firms in Saudi Arabia, for the period 2004 and 2012. The result of the study revealed that capital structure adversely affects firm efficiency.

In the same vein, Appiadjei (2014) study on the link between capital structure and firm efficiency of thirty-five firms that are members of the Ghana stock exchange, showed that for the period 2004 and 2008, leverage affects firm efficiency

adversely. Furthermore, Yegon, Cheruiyot, and Cheruiyot (2014) also reported that the influence of capital structure on firm efficiency of eleven firms in the banking sector in Kenya for the period 2004 and 2012 showed that long-term debt adversely affects firm efficiency. Safitri (2014) employed a panel data technique and explored the effect of capital structure on firm value of fifteen retail firms who are members of the Indonesia stock exchange for the period 2010 and 2013. The outcome of the study illustrated capital structure to have an adverse effect on firm value. Alzomala (2014) confirmed that for the period 2000 to 2010, size, and growth of the firm positively influence leverage while risk and asset tangibility affect leverage adversely of ninety-three Saudi Arabia firms. The study also showed that firm's size and asset tangibility positively affects its capital structure in the countries examined between the period 2004 and 2013.

Thippayana (2014) documented that in Thailand, what influences equity-debt mix are profitability and firm size. The study was based on one hundred and forty-two companies for the period 2000-2011. Baltaci and Ayaydin (2014), using a system GMM, indicated that firm size and growth rate of GDP affects leverage positively, while tangibility, financial risk, inflation has an adverse effect on the leverage of thirty-nine banks in Turkey for the period 2002-2012. On the other hand, Amin and Jamil (2015) study on the association between capital structure and firm efficiency of companies, members of the Dhaka stock exchange, showed that for the period 2001 and 2015, capital structure affects firm efficiency positively. The study used seven firms that operate in the cement industry. The study analyzed the data using the random effect technique. Rouf (2015) explored the effect of capital structure on firm efficiency of non-financial firms, who are members of the Bangladesh stock exchange, for the period 2008 and 2011 and showed leverage affects firm efficiency adversely. The study employed the use of OLS in analyzing the data obtained.

Banafa, Muturi, and Ngugi, (2015), using forty-two firms belonging to the Nairobi stock exchange and examined the link between leverage and firm efficiency between the period 2009 and 2013 using regression analysis, the outcome of the study revealed that leverage adversely affects firm efficiency. Rehman (2016) exploring the effect of capital structure on firm efficiency of four hundred and ninety-six non-financial firms used the fixed-effect model and concluded that leverage affects firm efficiency positively. The study used Tobin Q to measure firm efficiency. The outcome of the study is in tandem with pecking order theory. Avci (2016), using a panel data technique, explored the link between capital structure and firm efficiency of the manufacturing industry, whose stocks are listed in the Borsa Istanbul stock exchange between the period 2003 and 2015. The study outcome showed that leverage affects firm efficiency adversely. The study used one hundred and ten firms.

Crompton (2017) investigated the effect of financial structure on firm efficiency of firms listed in Namibian stock exchange showed that for the period 1990 and 2015, firms in Namibia employs less of debt financing. The outcome of the study also revealed that leverage affects firm efficiency positively. The study used seventeen firms that are members of the Namibia stock exchange. Jayiddin, Jamil, and Roni (2017), using the panel data technique examined the influence of capital structure on firm efficiency using Tobin Q as a measure of firm efficiency. The study revealed that leverage affects firm efficiency adversely. The study was carried out using forty-five firms in the construction sectors that are members of the Bursa Malaysia stock exchange. The study used panel regression analysis in analyzing the data. Using fifty-two deposit money banks,

Ukhriyawati, Ratnawati, and Rivadi (2017) documented capital structure adversely affects firm efficiency for the period 2012 and 2015. The analysis of the data was done using the OLS technique.

Shah and Khan (2017) investigated factors that influence the financing mix of non-financial firms for the period 2005-2014 and employed a fixed effect panel technique. The study concluded that current ratio and profitability have an inverse link with leverage, while tangibility, firm size, and non-debt tax shield affect leverage positively. The study revealed that liquidity and profitability are in tandem with the theory of pecking order, while non-debt tax shield and firm size support the trade-off theory. Yinusa, Somoye, Alimi, and Ilo (2016), using one hundred and fifteen firms in Nigeria and employing the generalized method moment method, revealed that capital structure affects firm efficiency adversely for the period 1998 and 2012. The study thus recommends there is a need for firms in an emerging market to improve on the financial performance to optimize the use of equity debt optimally.

Jeleel and Olayiwola (2017) exploring the effect of leverage on firm efficiency of Nigeria firms that are into paint and chemical for the period 2000 and 2009 showed leverage adversely affects firm efficiency. The study thus recommends the need for firms in the sector to rely more on equity financing, than debt financing. The study used the OLS technique in analyzing the data. Whereas, El-habashy (2018) used the Ordinary Least Square (OLS) method and showed that the firm-specific factors such as corporate tax, profitability, tangibility, growth opportunities, and firm size are what determine capital structure among 240 listed firms in Egypt for the period.

Cevheroglu-Acar (2018), using a panel data approach between the periods 2009 to 2016 concluded that in Turkey size, non-debt tax shield, profitability, liquidity, and tangibility are the most influential factors to determine the capital structure. The author concluded that in Turkey, the capital structure decision of firms follows the Pecking Order. Using a panel regression method, Akingundola, Olawale, and Olaniyan (2018) study the influence of capital structure on firm efficiency, indicated for the period 2011 and 2015, leverage has an adverse effect on firm efficiency of twenty-two non-financial firms that are members of the Nigerian stock exchange. Olukoyo (2018) investigated the impact of leverage on firm efficiency of one hundred and one firms in Nigeria between the period 2003 and 2007, showed that for small size firms, leverage has an adverse effect on firm efficiency but as the firm grows this effect diminishes. The study also found that the impact of leverage on firm efficiency is positive.

The empirical studies reviewed from the pools of literature both international and local revealed a mixed and inconclusive finding. For instance, some studies argued that capital structure positively influences firm efficiency (Amin and Jamil, 2015; Rouf, 2015; Ngugi, 2015; Rehman, 2016; Crompton, 2017; Olukoyo, 2018) and others documented that capital structure affects firm efficiency adversely (Margaritis & Psillaki, 2010; Warokka, Herrera, & Abdullah, 2011; Manawaduge, Zoysa, Chowdhury, & Chandarakumara, 2011; Khan, 2012; Rajendran & Nimalthasan, 2013; Muhammad et al., 2014).

Based on the above discussion the empirical literature revealed inconsistent results. This study was conducted to determine the effect of firm size on capital structure and firm efficiency with a robust dataset that includes firms of various sectors listed on the Nigerian Stock Exchange enhancing reliable and optimal outcomes.

## Data and Methodology

### Data Source

Data was sourced from the audited financial statement of forty-four (44) non-financial firms and eighteen (18) financial firms for the period 2010 to 2017. Table 3.1 provides overview of the variables used in the study

Table 3.1 Summary of Variables Measurement

Variables	Measurement	Notation
Firm-Specific Variables		
Capital Structure	Total Debt/ Total Equity	LEV
Liquidity	Current Asset/ Current Liability	LIQ
Firm Size	Natural Logarithm of Total Asset	TA
Asset Tangibility	Total Non- Current Asset/ Total Asset	ATAN
Firm Efficiency	Earnings per share	EPS
Revenue Growth	Growth in Revenue	REVGR

### Model Specification

The study model was built based on the review of theories and empirical literature. The functional model of the study is stated as:

$$EPS_{it} = f((LEV_{it} * TA_{it}), LIQ_{it}, ATAN_{it}, REVGR_{it}) \quad (1)$$

Expressing equation (1) in econometric form

$$EPS_{it} = \alpha_0 + \alpha_1(LEV_{it} * TA_{it}) + \alpha_2LIQ_{it} + \alpha_3ATAN_{it} + \alpha_4REVGR_{it} + \epsilon_{it} \quad (2)$$

Where EPS is earning per share, (LEV\*TA) shows the moderating effect of firm size on the link between capital structure and firm efficiency, LIQ is liquidity, ATAN is asset tangibility, REVGR is revenue growth,

$\epsilon$  is an error term,

$\alpha_0$  is intercept;

$\alpha_1$  to  $\alpha_4$  are parameters,

i denotes individual firms while t denotes time.

The above model was analyzed using the panel fully modified ordinary least square. The technique corrects heteroskedasticity and autocorrelation problems. Besides, the technique provides an optimal estimate when the variables are cointegrated.

## Presentation and Discussion of Result

### Stationarity Test

The stationarity test was first carried out in investigating whether firm size does matter in the relationship between capital structure and firm efficiency of both non-financial and financial firms. The outcome in table 4.1 shows that the variables employed in the study are stationary at first difference.

Table 4.1 Stationarity Test

Non-Financial Firms	Financial Firms	Cross-Sections	Method	Statistic	Cross-Section
Method	Statistic		Method	Statistic	
Levin, Lin & Chu	-23.668***	42	Levin, Lin & Chu	-11.373**	17

\*\*\* represent 1% level of significance.

### Panel Cointegration Test

The panel cointegration test was carried out by employing the Kao panel cointegration technique to ascertain if the variables have a long-run relationship since the stationarity test revealed that the variables become stationarity at first difference. The outcome in table 4.2 indicates that the variables have a long-run link.

Table 4.2 Panel Cointegration Test of Financial Firms

Non-Financial Firms	Financial Firms		
	Statistic		Statistic
ADF	2.753***	ADF	3.1922***

\*\*\* represent 1% level of significance.

### Panel Fully Modified Ordinary Least Square Estimate

The regression estimates in Table 4.3 showed that firm size has a moderating effect on the relationship between capital structure and firm efficiency for non-financial firms. Whereas for financial firms, firm size does not have a moderating effect on the relationship between capital structure and firm efficiency. This outcome implies that for non-financial firms, firm size influenced the association between capital structure and firm efficiency. In other words, firm size is important when examining the relationship between capital structure and firm efficiency, for non-financial firms in the country. For financial firms, firm size does not influence the relationship between capital structure

and firm efficiency. In other words, firm size does not matter when examining the relationship between capital structure and firm efficiency of financial firms in the country.

Table 4.3: Result on the moderating effect of firm size on the relationship between capital structure and firm efficiency of financial firms

Non-Financial firms	Financial firms		
Dependent variables	EPS	Dependent variables	EPS
LEV*LOG(TA)	-0.016894**	LEV*LOG(TA)	-0.000677
LIQ	0.489402**	LIQ	-0.248319
ATANG	4.843086	ATANG	0.091248***
REVGR	8.04E-05	REVGR	2.036728***

\*\*\*, \*\* indicates 5% and 1% level of significance

## Conclusion

In answering the question, whether firm size matters in the link between capital structure and firm efficiency, the study data were obtained from audited financial statements of 44 non-financial firms and 18 financial firms for the period 2010 and 2017. The panel fully modified ordinary least square was deployed in analyzing the data sourced. The outcome of the study showed that while firm size does matter in the relationship between capital structure and firm efficiency of the non-financial firm, whereas it does not matter for financial firms.

The study thus recommends that non-financial firm owners need to pay special attention to their size when making capital structure decisions because it influences the relationship between capital structure and firm efficiency.

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## Revenue controlling in the German dairy industry – status quo and potential for improvement

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### Abstract

*The German dairy industry produces vast quantities of dairy products, which are to a large extent sold through food retailers. The big retail chains in particular wield a great bargaining power due to their market penetration. Furthermore, as a net exporter, the German dairy industry produces more units in Germany than it sells there. This means that the dairies' prices necessarily get under pressure. According to Simon and Faßnacht as well as Meffert, the effective sales price is to be regarded as the most crucial profit driver. The pricing policy also influences capacity utilization, the entire value chain and the liquidity of the company (Simon and Faßnacht, 2016).*

*This clearly demonstrates that revenue controlling is of the highest relevance for the German dairy industry. Instruments and methods have been developed in theory and practice to facilitate revenue controlling. These include, for example, annual turnover/sales planning, the price scale for assessing sales deductions, contribution margin calculations for analysing the profitability of company divisions, customers and products, as well as deviation analyses regarding turnover, sales volume, prices, contribution margins and costs (Gleich et al. 2016, Weber 2018 and Pepels 2019).*

*In order to identify the status quo of revenue controlling in the German dairy industry as well as possibilities for improvement, this empirical study was carried out. Based on a literature review and analysis of previous studies, research gaps were identified and research questions and an appropriate research methodology were derived.*

*The research question "What is the status quo of revenue controlling in the German dairy industry and what are the possibilities for improvement?" was divided into two sub-questions:*

- a) How high is the status and professionalism of revenue controlling in the companies to be assessed?*
- b) What possibilities for improvement exist regarding organization and implementation?*

*In line with the research objectives, expert interviews were chosen as methodology for the research to gain as much insights as possible. The topic is not very well researched, so a qualitative approach seemed the most appropriate. Seven interviews with senior executives (CFOs, heads of Controlling) were conducted on the basis of a structured interview guideline. Based on the transcription of the interviews, categories were derived and defined.*

## Introduction

The companies in the German dairy industry produce vast quantities of dairy products. From the distribution perspective, the dairies depend on cooperation with food retailers. Especially the large retail chains have a high negotiating power due to their market penetration. In addition, the German dairy industry, as a net exporter, produces more units domestically than it sells there. This leads to pressure on the dairies' list prices. The claims for revenue reductions in terms of rebates and bonuses are exacerbating this problem.

According to Simon and Faßnacht (2016) as well as Meffert (2019), the effective sales price is considered to be the most significant profit driver. This is evident due to the direct profit effect. It should be noted, however, that pricing policy decisions have a long-term impact on the commercial success or failure of a company and are therefore extremely difficult to revise. The pricing policy also influences capacity utilisation, the value chain and the liquidity of the company.

Pricing policy decisions are thus extremely important for companies (Iven 2016). In order to ensure adequate revenue and price management, instruments and methods have been developed that are also relevant in practice. Based on annual turnover and sales planning, instruments such as the price staircase for evaluating sales deductions, contribution margin calculations for evaluating the profitability of business units, customers and products as well as deviation analyses can be mentioned. The latter can relate to turnover, sales and costs. In the context of revenue controlling, it is also possible to analyse deviations in terms of contribution margins and prices.

The aim of this study is to provide an insight into revenue controlling in the German dairy industry. To reach this goal, an empirical study was conducted with regard to the significance of controlling within the companies studied, the professionalism of the instruments and methods used, and possible improvements.

This study is divided into five chapters. The introduction is followed by a literature review in the second chapter, from which the main research questions are derived. Based on the research gap and research questions, Chapter 3 deduces, argues and presents the research methodology. Chapter 4 presents and discusses the research findings. Chapter 5 serves as a summary, the limitation of the research and provides an outlook including the need for further research.

## Literature Review

A properly working revenue management respectively price management is a prerequisite for revenue controlling.

Revenue management encompasses the configuration of sales through price- or capacity-oriented measures with the aim of maximising revenue. The following four characteristics are considered prerequisites for the use of revenue management (Klein and Steinhardt 2008): insufficient operational flexibility, integration of an external factor, heterogeneous demand behaviour and standardised products. The characteristic of insufficient operational flexibility is characterised by largely fixed capacities as well as limited storage ability of the products. The combination of these two factors means that producers are unable to react flexibly to changes in demand.

An expansion of the output quantity is only possible to a very limited extent, if at all, and the products can only be kept in stock to a limited extent due to short shelf lives and limited storage space. Typically, the customer is described as the external factor that actively influences the process of service performance. With regard to the criterion of heterogeneous demand behaviour, the three aspects of timing and volume of demand as well as willingness to pay should be mentioned. With regard to timing, some customers want to be able to plan ahead and purchase the goods or services more in advance than those who demand the service at short notice. The concept of advance booking is well known from passenger air travel with lower prices for early bookings and rising prices for bookings at short notice. Decreasing prices can be observed over time if the airline finds free capacities shortly before the flight date. Finally, standardisation of products and services promotes the application of revenue management. The two instruments of segment-oriented price differentiation and capacity management can be applied if the above criteria are met. Standardisation makes it possible to control capacity utilisation with dynamic pricing. An example of this is the typical price development in passenger aviation mentioned above. The segment-oriented price differentiation through the various booking classes, economy class, business class, etc., should also be mentioned here. This enables companies to set prices based on customers' willingness to pay. Although the criterion of heterogeneous demand only applies to a limited extent in the context of the dairy industry, segment-oriented price differentiation can be assumed. In this context, the different types of milk, such as pasture milk, alpine pasture milk and mountain milk, must be taken into account. Compared to conventional milk, there are significant price differences with marginal quality gradations.

The key factor in price management and the most important profit driver is the effective sales price. It can be described by four characteristics (Simon and Faßnacht 2016; Meffert 2019): flexibility, strength of impact, speed of impact and reversibility. Since price adjustments do not have to fulfil any prior conditions, they can be effected flexibly in principle. This is made clear by the approach of dynamic pricing. However, flexibility is often only theoretical. Due to the bargaining power of customers and existing contracts, price increases in particular can only be effected through increased effort. The strength of impact of the price effect results on the one hand from the customer's perspective and on the other hand from the reactions of competitors. Customers perceive all product attributes that provide them with a value positively. In contrast, the price to be paid is seen as negative. A significant price change tends to have a greater impact on customers' purchase decisions than a change in product attributes. Significant price changes by a supplier without a reaction from competitors can lead to shifts in market share. The speed of impact means that the effects of price changes happen almost without any delay. In food retailing, there are no conditions to be fulfilled or investments to be made in advance. In the case of significant price changes, customers usually change their buying behaviour, which influences the sales volumes of individual products. In addition, competitors often react to price changes. The effect on profits is immediate. A prominent example is the price changes at German petrol stations that take place several times a day.

From a psychological point of view, buyers often evaluate the price of a product with a reference point. Depending on the position of the price in comparison to the reference point, it is judged to be expensive or cheap. A price reduction is accompanied by the danger of creating a new, lower reference point. On the other

hand, a price increase can lead to the new price being assessed as unattractive. Therefore, price policy measures have a long-term effect and are difficult to reverse.

Revenue and price management pursue the same overarching goal, the profit optimisation of the company. The difference lies in the focus of revenue management on sales and of price management on turnover or contribution margin (Pepels 2019).

Revenue controlling is part of revenue management and consists of three components: revenue planning, revenue control and information supply.

Revenue planning is an integral part of the annual budgeting process, setting targets for performance based on financial forecasts. Holistic corporate planning requires the coordination of all different sub-areas. As a rule, revenue planning (using the counterflow method) is the starting point for budget planning (Britzelmaier 2020).

On the one hand, revenue control is downstream of planning, since an assessment of decisions is made with regard to economic efficiency and appropriate effectiveness in comparison to the planned figures. On the other hand, the findings of the controlling activities also serve as a decision-making basis for the budget planning of the following period. If the premises of the previous planning turn out to be unrealistic or inaccurate, they must be critically reviewed in the subsequent planning process. The analysis of target/actual deviations is decisive for the revenue control. These can be viewed from three perspectives: internal, cross-company and analytical. From a company-internal point of view, the examination of deviations is usually carried out according to sales and turnover figures. Only internal company data is used for this purpose. In contrast, a cross-company perspective uses market and competition data to compare the company's own performance with that of its competitors. Competitor figures are suitable here, but also macroeconomic data. The problem with this approach is the gathering of valid data on competitors. The third approach to revenue control is analytically based on methods such as zero-based budgeting and beyond budgeting (Pepels 2019).

Information supply serves as the basis for both planning and control. An adequate supply of information enables a basis for decision-making that can meet the demands of a rational company management. In order to be able to carry out an adequate control of the actual situation, the essential figures must be presented in a well prepared form (Weber and Schäffer 2020).

Important instruments of revenue controlling are, among others, the price ladder, deviation analyses, customer- and product-specific contribution margin calculations as well as customer lifetime value considerations (Britzelmaier 2020; Gleich et al 2016; Kühnapfel 2017; Weber 2018).

The price ladder according to Simon and Faßnacht (2016) illustrates the influence that discounts and sales deductions can have on sales revenues. The list price often comes under pressure from customer demands for discounts and further reductions in revenue such as quantity, logistics and special discounts. This can be illustrated and managed with the help of the price ladder.

An important instrument for analysing price deviations is the price-quantity deviation analysis. The total deviation between actual and planned revenue is broken down



into the three categories of price, quantity and mix or secondary deviation. This makes it possible to understand what caused the deviations in the revenue (Britzelmaier 2020).

Contribution margin analyses can be carried out on a product- and customer-specific basis in order to be able to make statements regarding the profitability of the products or customers. The analysis of customer contribution margins is necessary in order to make sales decisions regarding prices and conditions. Thus, the customer profitability calculation is in line with the goal of the price ladder to reduce revenue reductions. In practice, the calculation of the customer contribution margin is based on the cost-of-sales method. The gross revenues of a customer are subtracted by sales deductions, variable manufacturing costs as well as variable logistics, distribution and administration costs in order to calculate the customer contribution margin. The allocation of sales deductions and variable manufacturing costs to individual customers is usually not a problem (Kühnapfel 2017).

The customer lifetime value (CLV) is calculated using the net present value method. In this process, the projected cash inflows from the customer relationship are discounted at the required interest rate (weighted average cost of capital) over the expected lifetime of the customer relationship. This results in the customer value. In the case of a negative value ( $CLV < 0$ ), the desired return is not achieved, otherwise the expected return is obtained ( $CLV = 0$ ) or exceeded ( $CLV > 0$ ). The value of a customer relationship expressed by the CLV is also suitable for strategic revenue and conditions policy (Reichmann et al 2017).

The function of revenue controlling does not have to be institutionalised as a department; it can also be performed by other units (Britzelmaier 2020).

Several studies on the fields of price management, revenue management and revenue controlling have been developed in recent years, the most important of which are shown in Table 1.

Table 1 Previous studies

Year	Author(s)	Title (respectively translation)	Research
2019	Schröter I. and Mergenthaler M.	Hedonische Analyse von Milchpreisen auf Einzelhandelsebene: Qualitäts-, Siegel- und Markeneffekte (Hedonic analysis of milk prices at the retail level: quality, label and brand effects)	Quantitative
2019	Beutin, N. and Kirchner, P.	Quarterly Sales Radar Q2 2019 - Dynamic Pricing	Quantitative
2019	Indounas K.	Market-based pricing in B2B	Mixed
2019	Simon, Kucher &	Global Pricing Study 2019	Quantitative

2018	Riekhof H. and Wille J.	Pricing Studie 2018 - Pricing Prozesse in der unternehmerischen Praxis (Pricing Study 2018 - Pricing Processes in	Mixed - methods
2018	Rondan - Cataluna F., et al.	Setting acceptable prices: a key for success in retailing	Quantitative
2017	Guerreiro, R. and Amaral, J.	Cost-based and value-based price: are they conflicting approaches?	Qualitative
2015	Wang X., et al.	A laboratory exploration for multi-period perishable food pricing	Quantitative
2015	Österreichisches Institut für angewandte Telekommunikation	Dynamic Pricing - die Individualisierung von Preisen im E-Commerce (Dynamic Pricing - the customisation of prices in	Qualitative
2014	Liozu S., et al.	Organizational design and pricing capabilities for superior firm performance	Quantitative
2014	Watson I., et al.	"Passivity": a model of grocery retail price decision-making practice	Qualitative
2014	Radev R.	Price Planning Process in Multi-Product Companies from Fast Moving Consumer Goods Sector	Quantitative
2013	Indounas K.	The antecedents of strategic pricing and its effect on company performance in the case of industrial service firms	Mixed - methods
2012	Kurz, W. and Többens, T.	Global Pricing Survey - Managing Global Pricing Excellence	Qualitative

In 2015, the Österreichisches Institut für angewandte Telekommunikation (Austrian Institute for Applied Telecommunications) conducted a secondary analysis on the topic of dynamic pricing in e-commerce. This study focused on the aspects that speak for price differentiation as well as the opportunities and risks of dynamic pricing. The timing of the buying process in terms of demand and seasonal events, such as public holidays and holidays, is a factor that encourages dynamic pricing. Other criteria include the urgency of the purchase or the scarcity of the good, location, sales channel and the use of end devices.

In a qualitative study conducted by Kurz and Többens from Deloitte in 2012, 55 managers from seven industries were interviewed on the topic of price management. It showed that the majority of those surveyed set their prices on the basis of customer benefit rather than the corresponding costs. Overall, the introduction and implementation of systemic price management has only been partially realised so far. If this has been done, the system is still based on a few criteria and factors. The authors of the study see a need for improvement in this point. Regarding the formulation and implementation of the price strategy, different responsibilities can still be observed in practice. In this respect, there is a need for further systematisation. In addition, an effective incentive system needs to be established. Price reporting has been introduced to a large extent. However, there is a lack of cross-country reports and comparisons.

PwC regularly conducts quantitative surveys on the topics of marketing and sales. In last year's study authored by Beutin and Kirchner on the three areas of price differentiation, pricing organisation & systems as well as potentials & barriers, one of the central statements was that companies are basically aware of the usefulness of dynamic prices. Concerning the organisation, 60% of the analysed companies do not have their own pricing department. Most of the responsibility lies with the management and the sales department. Since a majority still uses separate, partly self-developed tools for price calculation, there is little automation in this area.

According to a quantitative study conducted by Simon, Kucher & Partners in 2019, most companies still see sales increases and cost reductions as the most important drivers for sustainable corporate growth. Only 12% of respondents cited pricing as a driver. The authors see this result as an underestimation of the potential of individualised pricing. In the survey year, 78% of the companies planned a price increase, but only 28% actually managed to implement the price effects planned in the budgets. This indicates shortcomings in the implementation of price increases. One reason for this is that, according to Simon, Kucher & Partners, a majority of companies are in a pricing battle with their competitors. This finding contradicts the use of a benefit-oriented pricing approach as described in the Deloitte study. Furthermore, half of these respondents contribute to an intensification of price competition with their own behaviour. A well thought-out and market-oriented price strategy is seen as a prerequisite for the efficient implementation of price increases. The product benefit from the customer's point of view should be the core message of the communication. In addition, the price and condition system should be aligned with the company's goals.

Within the context of a secondary analysis and subsequent case study, Guerreiro and Amaral addressed the topic of pricing. The first step was to differentiate between companies based on their customers - B2B or B2C. Companies that sell their products to end customers tend to have limited pricing options. This is primarily because their products are designed for the mass market and are therefore comparable to competing products. Accordingly, most of these companies act as "price-takers" and orient their pricing towards the prevailing competition. In contrast, companies in the B2B sector tend to act as "price-makers". This means that they are guided by internal factors such as cost calculation or external factors such as customer preferences. The more complex the product, the more difficult it is to make a comparison with competing companies. The comparatively lower price

transparency also means that prices are often set with customers on a case-by-case basis, i.e. there are no standard prices. This central finding contradicts the Deloitte study presented at the beginning of this section, in which the majority of respondents indicated customer-oriented pricing.

The four areas of the price management process - pricing research, price strategy, its implementation and strategic and operative price controlling - were examined as part of a study by Riekhof and Wilke. Overall, the respondents attributed a high value to price management. However, a quarter of the study participants attributed little to very little importance to this topic. In the case of preparatory pricing research, a quarter of the respondents put a high to very high effort into it, whereby the majority here assessed their effort as medium to low. Price increases and price differentiation are the most frequently mentioned measures that companies want to implement. However, one third cannot define to what extent this will succeed. One reason for this may be a partly highly non-transparent price structure, which corresponds to an organisation that is capable of development, as described in the PwC study. In most cases, the sources of information for pricing are competitive analyses and cost calculations. The lack of training on price enforcement is seen as an area for improvement.

The quantitative study by Liozu et al questioned 748 pricing professionals from the Professional Pricing Society about organisational resources and their impact on companies' pricing capabilities. Five resources have a significant impact on the performance of companies - central price management, proactive behaviour, organisational responsiveness, organisational self-confidence and knowledge of price management. If these resources are brought to bear in a coordinated manner, the introduction or improvement of price management can lead to an improvement in results. As a result, the study shows, among other things, interactions between these resources. For example, centralised price management leads to significant improvements when price knowledge has been low but organisational self-confidence is high. Vice versa, this is not the case. Accordingly, central price management, proactive action and organisational responsiveness are seen as prerequisites for price management knowledge. However, the latter two resources also promote a company's organisational self-confidence. As noted in the PwC study, however, only a minority has a central pricing organisation. Therefore, the structural design of price management is to be discussed as an essential improvement approach.

The studies by Indounas deal with the factors influencing strategic price management. According to the studies, both the market orientation of the company and the market growth of the industry have a major influence on strategic price management. Technological progress and market fluctuations are described as negatively influencing factors, while the size of the company and the intensity of competition could not be shown to have any effect on strategic price management. An examination of the interdependencies showed that the negative effect of market fluctuations decreases with a strengthening of market orientation. In addition, companies with systematic price management tend to show better results in terms of profitability, cost efficiency and customer loyalty.

The application of price management also includes the budgeting of price effects or price increases. According to the Radev study, this is the task of marketing. The

planning process and the associated decisions become more complex the more differentiated the product portfolio is. In order to model an appropriate process, the following criteria have to be fulfilled. Pricing policy should reflect industry realities - supply chain and demand. In addition, budgeting should be based on solid numbers such as costing, as well as on marketing philosophy. Furthermore, the planning must be subject to regular revision, including adjustments. Finally, the management, as the driver of price budgeting, is primarily responsible for the success of the process. Key figures and milestones are considered helpful as instruments for implementation.

The qualitative paper by Watson et al. explores the characteristics of list price decisions in grocery retailing. In terms of professionalism of list price decisions, the participating companies were found to be at a low level of development. This is mainly due to a lack of understanding of the effects of price changes on demand behaviour. In addition, the participants were classified into three role models based on their pricing decisions: "sellers", "signallers" and "setters".

Wang et al conducted an experiment to test a theoretical model for identifying consumers' willingness to pay. This answered the central question regarding the factors influencing customers' willingness to pay for perishable food products. The instrument of price differentiation in revenue management leads to a decline in the perceived fairness of retailers towards their customers. This leads to consumers increasingly shifting to strategic purchases of perishables. The negative perception of dynamic pricing contrasts with the positive application of this method as discussed in the PwC study. Like the Simon, Kucher & Partners study, the authors recommend pricing products on the basis of customer benefits.

Both price acceptance on the part of customers and the pricing strategy of companies are influenced by several factors. This is the central statement of the study by Rondan-Cataluna et al in the sports retail sector. According to the study, customers' willingness to pay depends on their purchasing power, the attractiveness of the shops, their location and the intensity of competition in the sector. On the basis of three products - football, tracksuit and running shoes - 350 customers were asked about the minimum and maximum prices acceptable from their point of view. The authors examined the four factors mentioned for differences in willingness to pay. The location of the shops and the age of the respondents turned out to be characteristics with significant differences.

The influence of different quality features as well as brands and labels on the retail price of drinking milk was investigated in a quantitative study by Schröter and Mergenthaler. Four models were developed to analyse the relationships between customers' willingness to pay and the variables product quality, process quality, label and brand. A core finding of the study describes the positive effect of a brand on willingness to pay. The brand effect is higher than the influence of labels, such as Demeter or Pro Weideland. The authors recommend using labels as an addition to brand policy. Both product qualities, such as fat and lactose content, and process quality, such as organic, hay and Alpine milk, have a significant positive effect on retail prices. However, according to the authors, the results of the study are subject to some limitations that lead to a need for further investigation. It should be noted that the sample does not represent market share ratios, individual characteristics have a low frequency and factors influencing pricing such as shelf placement and packaging design were not included in the study.

In summary, it can be stated that most studies only explore a part of the revenue or price management process and therefore there are only few works that provide a comprehensive overview over the entire process. Furthermore, there are only a few empirical findings on the use of instruments of revenue controlling. Furthermore, most of the studies look at the topic from the perspective of retail companies. No study could be found from the perspective of manufacturing companies. In addition, the majority of the studies presented dealt with the topic of revenue and price management from the perspective of decision-makers in management, sales or marketing. The involvement of controlling in the pricing process was not dealt with, but is provided for in theory. In addition, the manufacturing companies in the dairy industry were not the subject of the studies examined. The work of Schröter and Mergenthaler deals with the willingness to pay for quality characteristics of drinking milk. However, the retail price was used as the variable examined and thus the perspective of a dairy was not taken.

### Research Questions and Research Methodology

The findings from the literature research thus reveal a research gap and lead to the following research question:

What is the status quo of revenue controlling in the German dairy industry and which improvement potentials can be identified?

To answer the research question, it is subdivided into sub-questions. This approach substantiates the aspects to be investigated and leads to a consistent orientation of the empirical part of this study to clarify the research question. Accordingly, the following sub-questions are to be investigated by interviewing experts, the management or specialists and executives from the controlling of German dairy farms:

- a) How high is the significance and professionalism of revenue controlling at the moment?
- b) What possibilities exist for improvement in terms of organisation and implementation?

This study follows an explorative research approach. Exploratory research can be likened to the activities of the traveller or explorer (Adams and Schvaneveldt, 1991). Its great advantage is that it is flexible and adaptable to change. Adams and Schvaneveldt (1991) reinforce this point by arguing that the flexibility inherent in exploratory research does not mean absence of direction to the enquiry. What it does mean is that the focus is initially broad and becomes progressively narrower as the research progresses. The primary objective and at the same time the most important distinctive feature compared to quantitative analyses is the generation of new findings by describing and explaining individual, observed phenomena. In addition, qualitative research is characterized by open questions, closeness to the research object and the inherent risk of a lower objectivity of the researcher (Flick, 2014). The counter-draft, a quantitative investigation, is to be rejected for this work, since it usually aims at the verification of findings based on a high number of respondents. The typical characteristics, the focus on numbers as well as closed questions,

guarantee a higher objectivity, but are less useful for the actual purpose of our research than a qualitative design (Bryman and Bell, 2015). If a hypothesis derived from the theory is verified or falsified, this is a deductive procedure. If researchers are aiming to develop new theories based on data and observations, they use an inductive approach. While the deductive approach leads from theory to empirical research or from the general to the particular, the inductive approach corresponds to a movement in the opposite direction (Bryman and Bell, 2015; Saunders and Lewis and Thornhill, 2016). The choice of the research method fell on semi-structured expert interviews. With the help of openly formulated questions, this technique facilitates a vast variety of answers to selected topics. Ideally, the analysis of the interviews reveals relationships without directing the interviewees in advance through possible answers in a certain direction and thus aborting objectivity (Schmidt, 2014).

In accordance with the purpose of the study, experts from the controlling or business management of manufacturers in the dairy industry were contacted. The basis for identifying contacts was the public membership directory of the Dairy Industry Association. The controlling departments of the companies were first contacted by e-mail with an explanation of the study and then asked to participate in a follow-up telephone conversation. A total of 39 companies were asked to participate in the study, seven of which agreed to a semi-structured interview. The interviews were conducted and recorded by telephone or as a video call via Skype.

Table 2 shows the position of the interview partner and the size of each company in terms of annual sales revenue.

Table 2 Interview partners

Company no.	Position of the interview partner	Annual sales revenue range
1	Business Director	100 – 500 Mio €
2	Head of controlling	100 – 500 Mio €
3	Senior Controller	100 – 500 Mio €
4	Head of controlling	501 – 1.000 Mio €
5	Head of cost accounting and sales controlling	501 – 1.000 Mio €
6	Sales controller	100 – 500 Mio €
7	Head of controlling	501 -1.000 Mio €

Based on a guideline semi-structured interviews were conducted and recorded. The recordings were then transcribed and afterwards analysed using qualitative content analysis.

The aim of content analysis is to limit extensive data sets by coding. For use in expert interviews, suitable keywords are searched for in a first step and the corresponding statements are assigned to a category in a second step. Since the purpose of data analysis is to gather and bundle information and to establish

commonalities in the expert statements, qualitative content analysis of the expert interviews is predestined as the ideal approach. With this decision, the superior goal of the work could be achieved in the best feasible way. The extracted results were analysed followed by an interpretation.

The chosen research method is characterized by the combination of a theory- and rule-based approach with the objective of developing a deeper understanding of the underlying data. Qualitative content analysis is the only technique that detaches itself from the original text at an early stage and thus also serves as a content filter.

Before the expert interviews were carried out, topics were determined with close reference to the objectives of the study that also influenced the development of the guideline. In the course of the study period, these topic areas were refined and modified on the basis of new findings. Accordingly, the categories are the result of a deductive and inductive classification of the text modules. For reasons of traceability and clarity, a colour scheme was designed to depict the analysis results.

Table 3 shows nine categories which were derived out of the content analysis.

Table 3 Categories

Category number	Category
1	Purpose of revenue controlling
2	Role of the controlling department
3	Instruments and methods
4	Price-volume-deviation analysis
5	Pricing
6	Sales reductions
7	IT infrastructure
8	Digitalisation
9	Potentials for improvement

## Findings

### Purpose of the revenue controlling

Revenue controlling enables the companies to identify potentials and problems. However, the companies in the survey show different levels of maturity with regard to the organisational and methodological set-up and maturity of controlling. Their goal is to ensure sustainable corporate management. The use of revenue controlling is expected to increase the responsiveness. Early recognition of deviations from the budget can be used to derive measures or to achieve learning effects for the next planning phase. A variable remuneration component for the sales staff, for example sales commission, bonuses, etc., support the individual motivation to achieve the set goals. The participants' statements on the purpose of revenue controlling are not



unified; they diverge in terms of their objectives and tasks. However, revenue controlling is always perceived as important.

### Role of the controlling department

One indicator of the role of controlling is its participation in internal company meetings on essential processes. Both the number of participants and the regularity are evidence of the importance. In the course of the interviews, all respondents stated that they were in regular contact with the management, the board of directors and executives from various departments, especially sales. The majority of interviewees rates the importance of controlling as high. In two cases, an increasing importance was ascertained. The reasons for this can be found in the increasing pressure on contribution margins resulting from the negotiating power of customers. Overall, the participants perceive controlling as a business partner and internal service provider.

### Instruments and methods

The interview partner of company 3 made a clear statement on the fields, where instruments and methods need to be used: "The focus is on planning, monitoring and controlling revenues, the revenue structure and the contribution margins according to products, sales regions, customers and orders". Important instruments in practice are sales planning, contribution-margin accounting, break-even-analysis, forecasting, benchmarking, standardized and ad hoc reporting. The pertinence of the product life cycle was assessed differently by the respondents.

### Price-volume deviation analysis

Due to the high importance of the price-volume deviation analysis, which was ascribed to it by a majority of the interviewees, it should be listed in a separate category. In the course of conducting the expert interviews, it became apparent that this instrument is used in five of the analysed companies and is to be introduced in one company. In one company, the price-volume deviation analysis is described as an important component of revenue controlling and the month-end closing processes. The analysis is used by the companies interviewed to control the product mix and to analyse the causes of deviations from the plan. There are fundamental differences between the companies surveyed with regard to the determination of the types of deviation and their reporting. In most cases, the net-net price is used for the calculation. In this way, sales deductions are deliberately not taken into account in order to achieve a focussed analysis of the price deviation. Alternatively, it is possible to use this instrument on the basis of contribution margins. In this way, the effects of price and quantity changes are placed in direct relation to the impact on earnings. The implementation of the price-quantity deviation analysis on the basis of contribution margin I was mentioned once. The reason for this is that in this company the contribution margin is significantly more important as a control variable than the sales revenue. Further differences between the participants exist with regard to the reporting of deviations. In three cases, a resulting secondary or mix variance is explicitly shown as such. One reason for this is to avoid distortions that could occur if the mix effect were assigned to one of the other two deviations. However, the mix variance is attributed to the quantity effects in two companies. This procedure is

justified, on the one hand, by the low control relevance of the mix and quantity variance and, on the other hand, by a high potential for discussion regarding the significance of mix effects. In addition, the opinion was expressed that mix effects result from data aggregation at a higher hierarchical level.

## Pricing

Several times the participants in the survey emphasised that their companies produce and process large quantities of the raw material milk. In terms of a sales unit, the sales prices to the end consumer range from a few cents to single-digit euro amounts. This means that even small price adjustments lead to significant changes in the profit situation. The dairies' customers can essentially be divided into four groups: Supermarkets, discounters, export and food service. The latter include large consumers such as canteens and catering companies. Within these sales channels, three product groups are distributed. Firstly, the dairies' brands, which are often known nationwide through advertising. The second group consists of private labels. These are products that are sold to consumers as private labels of the retail companies. Finally, B2B products are sold to large consumers. Here, the significance of brand names is low because the product is processed further and the end consumers cannot establish a relationship with the manufacturer. The manufacturing cost calculation is based on the annual values of the sales planning. This is prepared on a full cost basis and takes into account the dealer margin and logistics costs. In the event of changes in raw material prices and changes in manufacturing costs due to adjustments in the production process, new calculations are made. The raw material milk is the largest cost item in the calculation, especially if it is not conventional milk. Two companies use the Felix® software solution from GKC Consulting AG. This cost accounting software has been specially developed for the dairy industry. However, the existing market transparency is not to be seen exclusively as disadvantageous for the dairies. The sales prices of the trading companies to the consumers are also transparent. This makes it possible to analyse both the dairies' own gross profit situation and that of the food trade.

## Sales reductions

The impact of sales on the effective price is, with one exception, rated as high by all interviewees. However, according to the experts, there are differences between the manufacturers' brands, the private labels and the B2B products. In the case of brands, the significance of sales deductions is considered very high across the board. Here, the list prices come under pressure due to the steady requests for discounts and bonuses. While this problem is negligible in the distribution of B2B products, there are also requests for sales reductions in the area of retail brands, although to a lesser extent than in the case of manufacturer brands.

## IT infrastructure

All interviewed participants reported that their company uses an ERP system as a software solution. In three cases, the data is held in a data warehouse. Here, controlling has access to the common OLAP operations such as drill-down, slice and dice to display the relevant data. Following on from the Instruments & Methods category described above, the majority of the controlling departments surveyed create their standard reports in a BI tool. With regard to future investments in the IT

infrastructure, the companies in the dairy industry expect a higher computing speed of their systems, software support for forecasting and benefits in terms of automation and rationalisation of IT processes.

### Digitalization

The hype about big data, artificial intelligence and advancing digitalisation has raised both expectations and concerns in controlling departments. In order to be able to answer the research question regarding the improvement possibilities of revenue controlling, the experts' assessments of the development opportunities through advancing digitalisation are of particular interest. According to the expectations of the respondents, the greatest hopes lie in an improvement of the data basis. This can be achieved through various steps. The harmonisation of data sources up to the creation of an integrated database in the sense of a single source of truth can help prevent interface errors. Furthermore, automation of the integration of external data is desirable. Above all, the use of information for market and competition analysis, benchmarking and forecasting purposes is generally regarded as sensible. Up to now, the plausibility and integration of external data has often been problematic. In summary, it can be assumed that the respondents expect positive progress in revenue controlling through advancing digitalisation. The automation of processes such as data preparation will release previously tied-up resources for analysis and consulting activities. In addition, the experts predict increasing evaluation possibilities as well as an individualisation of reporting, tailored to the needs of the information recipients. Furthermore, the companies expect a further development of the IT infrastructure through expansion and replacement of the existing systems. However, the participants in the study do not only expect positive effects from advancing digitalisation. On the one hand, the migration of legacy data is seen as a future problem. The renewal of IT systems would make it necessary to transfer data from existing systems. The controlling departments expect restrictions in this regard. Although the topics of big data and artificial intelligence have been discussed for several years, two participants do not perceive any significant progress in this regard.

### Potentials for improvement

The interviewees mainly identify potential for improvement with regard to process development and the IT infrastructure. Only in one company is there a plan to extend the instruments of revenue controlling. In this case, the company's own revenue controlling was characterised as being under development. In three other companies, the improvement of already used instruments is planned. With regard to the existing IT infrastructure, the companies in the survey believe that there is potential for development in data validity. In addition, the aim is to automate data processing and report generation in order to provide more resources for the analysis of deviations and advisory activities. In addition, the desire was expressed to make reporting more visual. By introducing visual analytics methods in combination with the use of rule-based dashboards, decision-makers should be able to gain insights from the processed data more quickly and easily. Regarding process quality, the interviewees see potential for improvement in terms of an increase in reaction speed through faster identification of the causes of a deviation from the plan. Furthermore, a standardisation of price and condition formation is to be strived for. Still, the respondents strive for an increase in the transparency of the sales deductions granted. In order to overcome the challenges mentioned, the knowledge of the sales

staff regarding discounts should be expanded and deepened. It can be concluded that the companies in the dairy industry want to improve their revenue controlling in terms of IT infrastructure and process quality. The implementation of new instruments and processes is, with one exception, not planned. On the other hand, existing methods and processes are to be further developed and the supply of information to decision-makers improved. The same goal is being pursued through the expansion and modernisation of the IT infrastructure. Examples of this are the efforts to introduce visual analytics methods and to replace existing ERP and BI systems.

## Conclusions and outlook

With regard to the importance of revenue controlling, reference can be made to the statements on the purpose and role of controlling. Due to the integration of revenue controlling into business management in the shape of the coordination of corporate planning, the sales-specific target setting and the determination of variable remuneration components for sales specialists and managers as well as the responsibility for customer segmentation, a high relevance of revenue controlling can be assumed. This is confirmed by the statements of the participants, who note an increasing demand for analyses on the part of the company management. However, the leadership style of the management also influences the role of revenue controlling. The more a company is led by the analysis of figures, the more important the role of controlling.

With regard to the professionalism of revenue controlling, the categories of instruments and methods, price-quantity deviation analysis, sales reductions, pricing and IT infrastructure can be used. This shows that there are different levels of maturity between the companies within the categories described. On the one hand, the respondents consistently describe their reporting as detailed and the IT infrastructure of some companies is equipped with modern ERP and BI systems. On the other hand, in some cases, both the tools and the IT infrastructure are still under development.

In addition, the demands of the trading companies for revenue reductions are seen as problematic by the majority. However, the participants see the process of creating transparency in this regard as not yet complete. Overall, it can be assumed that revenue controlling in the German dairy industry is highly professional, even though it has not yet reached full maturity.

The experts in the dairy industry see potential for improvement above all with regard to the process quality of revenue controlling, the development of the existing instruments and the expansion of the IT infrastructure. The majority of those surveyed have positive expectations of progressive digitalisation. In particular, more advanced possibilities of analysis, forecasting and scenario analysis are associated with this. However, digitalisation is not yet seen as having arrived, and notable progress has been missed to date.

Due to the small sample, no general claim can be made for the results presented. Nevertheless, it is possible to gain insights into revenue controlling in the German dairy industry. In the context of the present study, a current status was taken. Therefore, an evaluation of the development of revenue controlling over time could lead to further insights. Furthermore, the question of the professionalism of revenue

controlling in the German dairy industry has not yet been conclusively answered. The conception of a maturity model could serve this purpose.

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## Using the Film Process for Sales Education: The Results of an EU project

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### Abstract

*In recent years, increasing innovative learning techniques have been applied to sales education (Whalen and Coker 2016, 2017; Labrecque et al. 2019; Spiller et al. 2019; Cummins et al. 2020). The mix of traditional and innovative teaching techniques is grounded on social learning theory, that demonstrated the efficacy and students' preference for practical instruction rather than theoretical lectures (Kelly, 2004), especially in skill-based disciplines such as sales (Lastner et al. 2016).*

*This work presents the results of the development and implementation of an innovative, active learning methodology based on edutainment, the "Movie education" (Conform 2019, as a part of the overall IN.K.A.M.S. Erasmus Plus project (International Key Account Management & Sales – cofounded by European Union in 2017), which consists in involving students in the application of storytelling techniques and the creation of short films related to the didactic topics covered, in order to give a more experiential approach to the course.*

*Movie education consists of student participation in Film process laboratories, to acquire storytelling techniques, act and make short films dedicated to typical sales situations, based on the knowledge acquired in previous lessons. The integration of Movie education with other educational methods (lectures, discussions, video/film analysis, and tests), resulted in advanced knowledge elaboration and transfer, critical evaluation and development, memorization, behavioural response, with elevated student involvement and engagement.*

*This work presents the benefits and challenges of using Movie education through experimentation in five business university courses in five different EU universities, also providing contributions and suggestions for further implementation of this methodology.*

*Keywords: sales education, selling, active learning, blended learning, experiential learning.*

### Introduction

A salesperson's job today is not the same as it was 15 or 20 years ago (Moncrief and Marshall 2006; Ballestra et al. 2017; Cardinali 2019) because BtoB sales are becoming ever more strategic and value creating, due to increasing competition, globalization and technology (McDonnell and McNiff 2016; Cuevas 2018).

For years, sales positions have been among those most requested by companies at an international level (Manpower 2007, 2020). Companies are well aware of the growing

challenges that salespeople have to face and have started looking for sales recruits especially among University graduates (Nielson and Cummins, 2019). There are two challenges: on the one hand, business students generally do not aspire to take up this profession, also based on the stereotypes associated with salespeople (Ballestra et al. 2017), on the other hand, Universities do not always prepare students for sales positions, due to the scarcity of University sales courses, especially in European contexts (Deeter-Schmelz and Kennedy 2011).

Therefore, the recruitment of sales staff often takes place thanks to and within University contexts (Agnihotri et al. 2014), for the benefit of both companies, which find visibility and qualified personnel to hire, and students, who have the opportunity to better understand the skills necessary to carry out the work and can prepare for it, already at University, with huge savings of time and money (SEF, 2017).

Sales training and education has received little attention in the past in the marketing and business education literature (Cummins et al. 2020). With respect to sales education, research has already claimed its scarcity at an international and, above all, at a European level, including the limited application of active teaching methodologies (Deeter-Schmelz and Kennedy 2011).

Although marketing educators and practitioners have debated on the prominence of knowledge vs. skills (Spiller et al. 2019), there is a clear consensus that sales education can help bridge the skills gap (Agnihotri et al. 2014), therefore, some authors have proposed blending theoretical knowledge and technical skills as the preferred approach within sales education (Schibrowsky et al., 2002).

More recently, innovative learning techniques have been applied to sales education (Whalen and Coker 2016, 2017), often taken from vocational training (Inks and Avila 2008; Cummins et al. 2020). These include competitions, role playing, scenarios, mentoring and other methodologies that are known for their effectiveness in stimulating students to receive active learning (Drake, 2012; Young and Hawes 2013; Labrecque et al. 2019). The mix of traditional and innovative teaching techniques is grounded on social learning theory, which has spread in recent years, after studies demonstrated that students prefer practical instruction rather than theoretical lectures that are devoid of practical implications (Kelly, 2004), especially in skill-based disciplines such as sales (Lastner et al. 2016).

This work's aim is to present the results of the experimentation of a new methodology in the context of University education: "Movie education" (Conform 2019). The novelty of Movie education is that, following an active learning approach based on edutainment (Anikina and Yakimenko 2015), it has not only fostered the combination of teaching and entertainment, but also provided many benefits of innovative teaching methodologies. Movie education allowed students to reflect on and elaborate the knowledge acquired, using it as a starting point to build storytelling and group film work, interacting directly with sales situations with a high degree of cognitive and emotional involvement. Therefore, the integration of Movie education with other educational methods (lectures, discussions, video/film analysis, and tests), resulted in a high memorization and behavioural response, with elevated student involvement and engagement.

This Paper presents the experience of the IN.K.A.M.S. (International Key Account Management & Sales – cofounded by European Union in 2017 Erasmus Plus project) which was conceived and developed to allow the enrichment of business education with



sales topics through traditional methodologies and active learning techniques, including the novel Movie education. The aim of the project is to allow students to interiorize concepts and to understand and relate to the real case scenarios (Alvarez et al. 2015), while stimulating skills and producing a cognitive and behavioural impact, in order to close the skill gap with the labour market demand (Agnihotri et al. 2014).

The Paper is structured as follow: state of the art of sales education methodologies, project description and its assessment and future recommendations and improvements.

### Sales education methodology: an introduction

Trying to give an overview of the state of sales education in University contexts, a comprehensive literature review (Palmatier et al. 2017) allows to illustrate the diffusion of sales education and the various techniques adopted within University courses, together with traditional methodologies (Deeter-Schmelz and Kennedy 2011).

It is worth stating that sales education and training (Baldauf and Lee 2011; Schrock et al. 2018; Bolander et al. 2020; Dugan et al. 2020) is one of the aspects that is least investigated and most worthy of attention in international sales.

Deeter-Schmelz and Kennedy (2011) examined the state of sales education from a global perspective and found that only about 20% of the Universities in the sample (N=209) had courses or specializations in sales. Among the most cited reasons for including these courses in the University teaching offer, was the demand from businesses.

Further research has shown that the presence of courses is increasing in some contexts, especially introductory courses (Spiller et al. 2019) but there is still a lack of advanced courses such as sales analysis and sales technology courses.

Moreover, generally sales education is carried out mainly via traditional teaching methods, class and e-learning, as well as active learning methods: immersive, social and experiential (Inks and Avila 2008).

In general, previous research did not report extensive data on the most common teaching methods used in sales courses (Parker et al. 1996), but then it became increasingly clear that active learning strategies are more effective than traditional passive learning strategies, especially regarding behavioural skill development (Lastner et al. 2016). Active learning is a highly personalized form of learning, in which students seem to learn better as they fully participate through discussion, reflective thinking, problem solving, and/or other activities that require the learner to cognitively process the new information presented (Inks and Avila, 2008, Chapman et al., 2015; Gray et al., 2012; Wahlers et al., 2014).

Furthermore, active learning allows students to link new information to what they already know, and assumes that this knowledge is actively constructed by people rather than passively received (Labrecque et al. 2019). Therefore, by using a mix of instructional methods (lectures, discussions, video/film analysis, and tests), students are presented with sales techniques, processes, and concepts in both passive- and active-learning environments (Drake, 2012). Moreover, Multi-media education allows superior memorization and knowledge at high level, whereas verbal-based education is perceived more as top-down and less realistic and involving, allowing limited assimilation of concepts

and fewer real case applications (Alvarez, 2015). Active learning team-based activities seem to foster the increase of students' learning orientation and goal achievement (Michaelsen and Black 1994; Livingstone and Lynch 2002).

Among the most used and cited active learning methodologies in sales literature (Deeter-Schmelz and Kennedy 2011; Spiller et al. 2019; Cummins et al. 2020), the most recurring are: role playing (Nelson, 2016), cases, simulations, guest speakers, in-class exercises, projects, student presentations, videos, written sales proposals, but also salesperson's shadowing (Hutto, 2016; Mullen et al. 2016), guest speakers (Agnihotri et al. 2014), and adaptive improvisation comedy or "improvisation" (Rocco and Whalen, 2014).

Some of these active learning methods are further examined as regards their usefulness and impact on personal skills in Table 1.

Table 1. Active learning methodologies overview

METHOD	KEY TO SUCCESS	SKILLS
Sales presentations	<ul style="list-style-type: none"> <li>-Suggested approach (eg. FEBA Feature, Evidence, Benefits, Approach)</li> <li>-Specification of target audience</li> <li>-Instructor and other students' feedback</li> </ul>	Communication (Involving, Handling suggestions/objections, Incisivity, visual image, Improvisation/Adaptiveness)
Scenarios/roleplaying	<ul style="list-style-type: none"> <li>-allowing the students to select skills on which they want to work</li> <li>-varying the behaviours, needs, and concerns of the buyer</li> <li>-providing critical feedback to the student(s) in the role-play and to any observers</li> <li>-repetition</li> </ul>	Organizing strategies and tactics Teamwork Problem solving Negotiating Communication and selling skills
Experiential assignments	<ul style="list-style-type: none"> <li>-Selling experience (actual sale call)</li> <li>-Planning a travel agenda</li> <li>-Coaching</li> </ul>	Organization Budgeting Interpersonal communication
Sales mentor (professional/practitioner)	<ul style="list-style-type: none"> <li>-Observation and learning</li> <li>-Analysis of KPA in the mentor industry/business</li> <li>-Sales process and experience</li> <li>-Role of technology (CRM)</li> </ul>	Development of professional relationship/network Observation interpersonal communication time management

Source: Own elaborations on Inks and Avila (2008)

These techniques are important for developing hard and soft skills related to the salesperson's profession. As already stated, there are many ways to allow students to put the acquired knowledge into practice, also putting Universities and businesses in contact, in various types of learning experiences, with targeted exercises that contain educational innovations (Rippé, 2016).

Speaking of innovation, Whalen and Coker (2016, 2017) showed many of the innovations in active learning applied to marketing and sales, including video infomercial exercises, online sales video-calls, sales theatre workshop and many others. To our knowledge, storytelling and movie making have never been used in sales education. The only examples of active learning applications connected with movies are video/film analysis (Alvarez 2015) or movie making experiences within communication and media studies (Kabaday 2012), social studies (Hofer and Owings Swan 2005) or technical education (Absi et al. 2018).

Furthermore, with reference to the advanced or specific aspect of sales education, such as cross-cultural sales (Tuleja, 2014; Delpechitre and Baker, 2017; Herlache et al. 2018), some sales education programs are incorporating cross-cultural awareness and international selling skills, with cross-cultural roleplay (Cummins et al. 2013) or using web-based platforms and cultural assessment measures (Phelan 2019), improving students' chances to become successful international professionals. Finally, another absolutely relevant topic for contemporary sales is sales technology, which is, however, implemented and studied in a very limited way based on a review of the literature on innovative sales education (Cummins et al. 2020): some recommended methodologies are integration of sales technologies in roleplay and virtual reality exercises.

### Project Description

The project described in this section illustrates the implementation of the proposed active methodology. The IN.K.A.M.S. Erasmus Plus project was co-funded by the European Union in 2017. It aimed to realize, pilot, disseminate and mainstream a new University learning course focused on International Sales & Key Account Management. The piloting of this new course was realized as an integrative project in five different University business courses: in Italy, Poland, Spain, Bulgaria and Slovenia. The integrative project was a half semester-long and it required students, as the final team-based assignment, to create short films dedicated to typical sales process situations. This assignment made up a significant portion of the students' grade.

### Learning objectives

The key objective of this project was to allow students to acquire advanced knowledge and skills in the field of international Sales and Key Account Management and apply them in a lifelike experience. Sales strategy skills included formulating a sales strategy, monitoring sales results and performances, managing sales processes. Relationship selling and Key Account Management skills included identifying and managing the Key Account, negotiating, building customer relationships and understanding intercultural issues. Market analysis skills included conducting statistical analysis and using IT tools and interfaces on the field. Managing sales team skills included recruiting and training staff, designing a salesforce organization and coordinating the sales activity.

This project incorporated active learning by providing students with the opportunity to apply the sales concepts acquired in class and through the project educational material, to a lifelike situation and helped students to bridge the gap between theory and practice. Teams were required to attend lessons on storytelling, take inspiration from the lesson topics and apply storytelling techniques ideating a storyboard. In this way students were required to rehearse old material, which improves retention (Anderson, 2000; Bacon and

Stewart, 2006). For the final assignment they were asked to put into practice what they wrote in the storyboard, then shoot and make their short film.

Simulating what they are learning, students are challenged to think, talk, listen, read, write and reflect about the course content (Meyers, 1993).

Numerous benefits of active learning methodologies have been addressed in marketing and sales literature. For example, students involved in this approach developed a deeper conceptual understanding of the material, and a greater appreciation for the discipline when compared with students involved in the same course taught with passive methods (Udovic et al. 2002). Moreover, the most effective active learning takes place in teams.

## Method

At the beginning of the courses, the integrative project was presented, and students were asked to apply on a voluntary basis. The 221 students in the five University courses piloting this method were involved in all the project phases. It was divided into three steps (as described in the following Table 2): lectures, short experiential assignment, the Film process laboratories.

Participating students were asked to attend lectures both in the classroom and on the project e-learning platform on strategic sales management; coordination and management of sales relations, relationship selling and KAM (Key Account Management); market analysis, sales knowledge and ICT in sales; building, managing and leveraging a sales team salesforce management.

After that, students were involved in a short on-the-job training session in BtoB SMEs. This team-based experiential assignment consisted of understanding company business and environment, sales KPIs, activities and sales knowledge through interviews with the companies' representatives, delivering a final report for the company analysed with the findings and further recommendations. Benefits of the experiential learning in sales education were widely presented in literature (Alvarez et al., 2015; Chapman et al., 2015; Gray et al., 2012; Wahlers et al., 2014).

The aim of this phase was twofold: to add "a sense of realism that comes from having to prepare and present a report on a tight deadline" (Razzouk et al., 2003, p. 35); to give students a better understanding of selling and help them make better career choices enabling them to make good business contacts that could lead to future employment (Avila, 1991).

The third project phase regards Movie education.

Movie education consists, as specified in the next paragraph, in the introduction of storytelling techniques by the professors in dedicated lectures, and in the making of short films by the students. These short films are conceived starting from the developed knowledge (class and e-learning) and experience (training on the job session). In this sense, Movie education differs from well-known techniques in sales education such as role playing and video taping, since students are not only encouraged to implement solutions for typical problems or a typical sales situation, but also to devise a story with a coherent development. Compared to the mentioned techniques, Movie education shares the aims of further stimulating critical thinking, creativity and teamwork. Moreover, it is similar to the

video modeling techniques, since short films can act as an educational moment both in the creation phase and in the viewing within different / subsequent classes or courses.

### Implementation steps

At the beginning of the third part, students were asked to become familiar with the new methodology, the storytelling techniques, the storyboard, shooting and editing techniques, as described in Table 2. After presenting the storytelling methodology and techniques to the class, students were provided with the storyboard template to be used as a tool to develop their plot starting from the topic chosen among the course themes.

Then students were asked to form teams consisting of a number ranging from five to eight students.

Table 2. Project Development Guidelines

	Activity	Timing	Description
I	Face to Face and E-learning lessons	Sessions of 34 hours (32h face to face + 2h of E-learning contents)	Traditional sales classroom lessons E-learning lessons: 4 or 5 sales didactic modules divided into 12-16 units presented with short videos and additional materials as case studies or supplemental
II	Brief corporate experience	Short on- field experience of approx.one week	Workgroup analysis of companies' business processes carried out, data analysis, interview and produced a report
III	Film Process Laboratories		
	a) Presentation of the methodology	Session of 2-4 hours with 10 to 50 participants.	Introduction to movie education and presentation of the tool to be used as storyboard template to develop the didactic short-
	b) Improvement laboratories	Group session/s of 4-6 hours with 5-8 participants for each group and a group leader. It is recommended to have a moderator.	Starting from the topic chosen among the course themes, the participants have to consolidate the idea to develop the story, define the roles (actors, producers, video maker, scriptwriter) and the core
	c) Developing the storyboard	Group activity of 4-6 hours with 5-8 participants for each group and a group leader.	Put into play various dimensions (cognitive, valorial, emotional, relational) as a personal and professional development strategy; elaborate the narrative text and define the

	d) Shooting and editing	Group activity of 4-6 hours with 5-8 participants for each group and a group leader.	Application experience: the groups of students develop the storyboard by implementing the actual filmmaking, in full expressive and artistic freedom. There is no specific requirement on the quality of execution of the short films, only a check of the correctness of the sales content by the professor / coach, available for questions and clarifications. The members of the group set up the
	e) Video presentation	“The première” lesson (depending on the number of groups in every class, circa 30 mins per group)	Introduction of the video in the classroom by the group leader, video sharing and evaluation: Within a dedicated lesson, the leading student of every team presents the short film developed within the group activity, introducing to the class the topic, the issues addressed and the development process (15 mins), and shows the short film to the professor/coach (assessment) and fellow

Source: own elaboration based on IN.K.A.M.S. (2017)

It is generally accepted that active learning team-based activities allow students to become learning oriented and achieve their objectives (Michaelsen and Black 1994). In order to work on the storyboard, they have to consolidate? the idea in order to develop the story and define their roles as actors, producers, video makers, or scriptwriters; in this way they are introduced into a community of practice where people interact, share ideas and challenge each other (Forman 1994).

After having elaborated the script of the story, teams have to shoot and edit their story arriving at the most active part of the project. So, students move from the traditional passive learning approach to a more student-centered learning approach (Laverie, 2008; Labrecque et al. 2019).

Moreover, mirroring lifelike situations, applying team-based active learning, contributes to develop skills that are relevant and valuable in the workplace (Livingstone and Lynch 2002).

## Project Assessment

### Project benefits and challenges

The professors who conducted the course and guided the students in Movie education collected the student evaluation forms, which were structured on the following three

different drivers: perception of learning approach, teamwork experience, competence acquired.

1. Perception of learning approach: many respondents suggested that it enabled them to better understand the topics covered and increase their memorisation in a way that sales lessons do not allow; as a student highlighted “It was interesting to try something new, different, something that is not directly related to the standard learning style”, “This part of the project was the most entertaining and creative”.

2. Teamwork experience: it emerges as a positive element in almost all the opinions of the interviewees who describe it as an enjoyable collaborative project activity “The film was the most enjoyable thing in the entire project, which we were happy to take part in and have fun at it.”, “It has given us the possibility to relate and to form a group also with the other colleagues of the University”, “This was a fun task for everyone, and we got along very well with no arguments about the content of the video or anything like that.”;

3. Competencies acquired: students became familiar with storytelling and narratives as well as with the structure of scenarios. “It was useful, however, that we learned how to make a climax in movies and how to work in a video processing program.”, “It was an occasion to deepen the storytelling.”.

On the other hand, from a negative perspective, they asked for more instructions to shoot and edit videos and “pointed out that some of the participants in the project do not have the necessary equipment for recording and processing (i.e., suitable computers, programs etc.)”; moreover, someone suggested a final film competition “Perhaps students could evaluate the films of other groups and, thus, compete for the title of the best, which could be additional motivation.”

Professors find the class interesting for students. Despite reporting initial hesitations due to the students’ perceived increased workload, at the end they all agreed they were happy with the results. In the course of action, professors observed students’ reactions, efforts and attempts to produce good results and noticed the students’ satisfaction. The professors’ evaluation of students’ work was based on the results of the cognitive assessment demonstrated by the relevance and coherence between topics and story and video development, team work and student engagement. Tables 3 and 4 summarize students’ and professors’ impressions and quotations (Young and Hawes 2013).

Table 3. Examples of Comments Provided by the Students

- This part of the project was the most entertaining and creative. The instructions from the mentor were clear. As a weakness, I would only point out that some of the participants in the project do not have the necessary equipment for recording and processing (i.e., sufficiently powerful computers, programs etc.).
- We really enjoyed filming the video. We had lots of laughs while doing it, we wanted to include some humour because our movie theme choice was alcoholism in the workspace, and we didn't want to make a gloomy video. This was a fun task for everyone, and we got along very well with no arguments about the content of the video or anything like that. I believe we did our job well, while we also followed the instructions on the video making.
- Making the video was fun, we did it once and we would do it again.
- We like this creative part of the project and it was an interesting way of studying. The biggest disadvantage was that educational videos took a long time before we prepared the video.
- The last part of the project or recording a video on a selected theme from the content that we learnt on the project, I find it very interesting. It was interesting to try something new, different, something that is not directly related to the standard learning style. We made that part together, as a team. Everyone had an individual job that he/she had to do in order to finally produce an appropriate video clip.
- The film was the most enjoyable thing in the entire project, which we were happy to make and have fun at it. I think that the focus of future projects should be somewhat more focused precisely in this way of working that attracts students. In addition, this was the only activity that really produced a final product that we can look at. Perhaps students could evaluate the films of other groups and thus compete for the title of the best, which could be an additional motivation. In any case, this will be one nice memory that will remain, and we will be able to look at it over the years; it will remind us of the times of student days that unfortunately expire...

Source: own elaborations on IN.K.A.M.S.

Table 4. Examples of Comments Provided by the Professors

- Movie education was one of the most interesting and challenging experiences for the lecturers. Prepared as we are, we had to catch up with some areas and guidelines at the same time. It was educating for both sides in the process.
- Movie education class was well accepted by the students. This was a very mixed group of students, undergraduates, international students, Erasmus students and postgraduates. We had a special class-meeting and they immediately showed enthusiasm and interest. They got the idea and produced good videos seeing that for the majority this was their first experience of acting, writing the scenario etc. As a mentor, I was also in a learning process because this is not my specialty. When I evaluate the products-videos I think they are all good.

Source: own elaborations on IN.K.A.M.S.

Next, Table 5 illustrates the pros and cons of Movie education in sales, from the professors' perspective: the advantages include teamworking implementation, student engagement, creativity and learning by doing, whereas the disadvantages include limited time to implement the active learning tasks, the need for proper technical equipment.



Table 5. Identified (dis)advantages by professors

Country	Plus (advantages)	Minus (disadvantages)
SLO	Students' motivation Learning by doing approach -Different experience Group work Different student-teacher relationship	Not necessarily for gaining new knowledge
IT	Learning by doing approach Team Working Creativity and collaboration	It takes considerable time to create the storyboard and video production.
ES	High commitment of the students. They were highly attracted by this new learning experience. Students learn having fun. This increases the efficiency of the learning process. Active participation of students during the learning process.	The Course should have a lecture on the narrative aspects of the audiovisual language Basic treatment of the issues included in the video. A good story needs a lot of time. Student lack of knowledge on technical aspects (ex., shooting with mobiles and/or editing a video with free software)
PL	Engaging, addictive process that brings joy. Higher assimilation of knowledge due to direct and personal involvement. Great opportunity to cooperate with the group.	Limited technical resources (necessity to train not only on storytelling, but also on technical aspects of recording) Very hard to tell a good story in and advert of a few minutes. To write a good story, you need much
BG	High level of interest and engagement of the students Students learn and have a lot of fun at the same time. This increases engagement in the learning process. Active participation of students during the learning process.	Students lack the knowledge of professional movie making and this left them with an impression that they were doing something but were not satisfied with the outcome. A large part of the students refused to be actors. They did not want the video to be uploaded as a sample movie on the platform if they were the actors. Students lack knowledge on technical aspects (ex., shooting with mobiles and/or editing a video with

Source: own elaborations

### Future Recommendations and Improvements

This case study seeks to contribute and respond to something that scholars and professionals have pointed out for years: the gap between the skills of today's sales professionals and those of University students must be closed through active and innovative learning methodologies (Agnihotri et al. 2014).

The IN.K.A.M.S. project designed a learning framework to enrich and finalize knowledge on specific and targeted topics, such as those of the management of international sales

and KAM. This, in itself, represents a novelty in the European University landscape, but above all the contribution of the classes, e-learning, the short company experiences and the film process laboratories served to propose a model that allows one to integrate passive and active learning methodologies to stimulate knowledge and skills.

In particular, from the point of view of hard skills, Movie education stimulates the ability to organise knowledge, planning, project management and communication, which are fundamental for sales professionals on the international scene (e.g. Delpechitre and Baker, 2017).

From the point of view of soft skills, on the other hand, teamwork skills, critical and lateral thinking, but also creativity and problem solving were certainly involved (e.g. Absi et al. 2018).

This methodology is unprecedented in sales education and could easily find space in both Universities and vocational training. In addition, this approach to communication and new technologies can serve as example material for further training, as an inspiration for the sales and marketing function in building new communication strategies, brand awareness and use of social media.

Other forms of contamination and collaboration of creative and artistic languages could, therefore, be considered to be applied in business University courses, to stimulate and involve students, such as graphic design, creative writing, theatrical representation, podcasts and much more.

## Notes

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All the IN.K.A.M.S Project results may be found at <https://ec.europa.eu/programmes/erasmus-plus/projects/eplplus-project-details/#project/2017-1-IT02-KA203-036707> .

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