



universität
wien

DISSERTATION / DOCTORAL THESIS

Titel der Dissertation / Title of the Doctoral Thesis

“SUSTAINABLE REGIONAL DEVELOPMENT
THROUGH VOCATIONAL TRAINING AND FOUNDING
OF SME’S”

VERFASST VON / SUBMITTED BY
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angestrebter akademischer Grad / in partial fulfilment of the requirements for the degree of
Doktor der Philosophie (Dr. phil.)

Wien, 2017/ Vienna, 2017

Studienkennzahl lt. Studienblatt /
degree programme code as it appears on the student
record sheet:

A 092 300

Dissertationsgebiet lt. Studienblatt /
field of study as it appears on the student record sheet:

Politikwissenschaft

Betreut von / Supervisor:

Univ. Prof. Dr. Hans-Georg Heinrich

Table of Contents

Table of Contents	II
List of Figures	VII
List of Tables	VIII
1 Introduction	1
Europeanisation as a promoting tool of innovation in transition regions	26
1.1 Institutional and structural economical influence of Europeanisation	26
1.2 Complexity primer for sustainable development and structural regional transformation 33	
1.3 Theoretical considerations on sustainable regional development	38
1.4 Alternative paradigm for sustainable development	42
Operationalisation of EU instrument and strategies on External regions	48
1.5 Relevance of Good Governance approach for transition processing	48
1.6 Bilateral vs unilateral approach for sustainable development	54
1.7 Converse approach as a optimizing resource of useful transition dynamics	57
1.8 External governance of regional domestic resources	60
Methodological approach	63
Regional dimension of EU sustainable development strategy	67
1.9 Regional development strategy	67
1.10 Innovation and research mechanisms for transition countries	69
1.11 Promoting innovation and technologies in transition countries	70
1.12 Open innovation: build of institutional premises	71
1.13 Research and Development concept for regional sustainable development	75
1.14 Institutional/organisational implementation (R and D strategy)	78
1.15 Austrian model of regional sustainable development as a complexity for the advancement of modernization	80
1.16 Reducing social and economic disparities through sectoral modernization	83
Smart specialisation as a new approach	85
1.17 Implications for transition economies	88

Relevance of Trans-regional learning framework for providing of sustainability	89
1.18 Learning framework for transforming of cognitively space on the regional level.....	89
1.19 EU member states advancement for increasing dynamics of regional modernization ...	94
Vocational Educational and Training (VET) as trans-regional capabilities for incorporate into innovation and research framework.....	99
1.20 Global VET Reforms	101
1.21 Concept of VET in Europe.....	102
1.22 European VET model.....	102
1.23 Austrian Vocational Education and Training.....	104
1.24 Historical Outline of VET Support in International Development	104
1.25 Current Worldwide Patterns in VET and the academic discourse	107
1.26 Austrian Vocational Education (HTL).....	116
1.27 VET in the Austrian Development Cooperation	119
1.28 Transfer of Austrian VET	121
1.29 The Status Quo	122
1.30 Contribution of VET to Human Capital Development	130
1.31 Challenges in VET	132
1.32 Reforms in VET and Manpower	133
1.33 Comparison of General Education with VET	135
1.34 Benefits of VET	136
1.35 Market benefits of VET.....	138
1.36 Non-Market benefits of VET	140
Entrepreneurship and Industrialization	142
1.37 Entrepreneurship Process	143
1.38 Economic Development and Entrepreneurship.....	144
1.39 Transformation of Economy, Innovation-driven Growth and Entrepreneurship	144
1.40 European Perspective on Academic Policies and Entrepreneurship	146
Activation innovation potential on the regional level.....	148
1.41 Innovation, science and technology	148
1.42 Triple Helix Model and Clusters.....	150
1.43 Quadruple Innovation Helix Model	153
1.44 Public-Private Partnerships (PPP).....	154
1.45 Business Incubation.....	156

1.46	Evolution of Business Incubation	159
1.47	First Generation:.....	159
1.48	Second Generation:	159
1.49	Third Generation:	159
1.50	Small and Medium Enterprises (SMEs).....	163
1.51	Development of SMEs	166
1.52	SMEs and Sustainable Regional Development.....	169
1.53	Contribution of SMEs to the economy.....	170
1.54	Support for SMEs.....	171
1.55	Specific Areas for SMEs in the European Union.....	172
1.56	Financial Support to SMEs in EU programs.....	173
1.57	SMEs and Job creation in Europe	174
	Empirical Research: Regional Questions.....	175
1.58	Research Objective and Questions.....	175
1.59	South Caucasus: Georgia an Overview	176
1.60	Human resources	176
1.61	Economic Status.....	177
1.62	Agriculture	177
1.63	Industry.....	178
1.64	Resources	178
1.65	Transportation	178
1.66	Economic Restructuring and Macroeconomic situation	179
1.67	Growth in GDP	179
1.68	Inflation and Budget Revenue.....	180
1.69	Fiscal policy	181
1.70	Foreign Direct Investment.....	181
1.71	Poverty	181
1.72	Labor Force Demand.....	184
	SME Sector in Georgia	184
1.73	Innovation and Technology.....	185
	The case of Armenia	186
1.74	Human resource.....	186
1.75	The economy	187

1.76	Agriculture	187
1.77	Industry.....	188
1.78	Energy	188
1.79	Transportation	189
1.80	Trade.....	189
1.81	Education.....	190
1.82	General Education	191
1.83	Professional Education.....	191
1.84	Economic Development in Armenia	192
1.85	Armenia’s human capital	193
1.86	Labor Market.....	193
1.87	Foreign Trade	194
1.88	SMEs Sector in Armenia.....	196
	Western Balkans: case of Albania	197
1.89	Albania an Overview.....	197
1.90	Demography	197
1.91	Financial Situation.....	198
1.92	Transportation	200
1.93	Energy	200
1.94	Consumable Water and Sewage.....	201
1.95	Farming	201
	SME Sector in Albania	203
	Hypotheses for sustainable regional development.....	205
1.96	Software	205
1.97	Model Regional Sustainable Development Processing.....	205
1.98	Model Structure Description	205
1.99	Scenario Development	207
1.100	Conditional Probability Tables.....	207
1.101	Model Validation and Verification	207
1.102	Results	208
	Discussion	212
1.103	Outcome of VET in Education.....	213
1.104	Outcome of VET in Labor Market.....	216

1.105 Skills Development through VET	217
1.106 Skills for Economic Development	218
1.107 Outcome of VET in SMEs	221
1.108 Vocational Education and Training Impact of Firm's Competitiveness.....	221
1.109 Conclusion.....	223
1.110 Recommendations	224
Appendix.....	226
Abstract (English)	226
Abstract (German)	227
References.....	228

List of Figures

Figure 1: Benefits of VET (Source: McMahon, 2004)	137
Figure 2: Benefits of Vocational Education and Training (Source: Cedefop, 2012).....	138
Figure 3: Source of Innovation(Schilling, 2005)	149
Figure 4: Impact of Technological Changes on Economic Growth Models(Şener and Sarıdoğan, 2011)	150
Figure 5: Triple Helix Model.....	152
Figure 6: Quadruple Helix Model.....	154
Figure 7: Number of Business Incubators Worldwide (Source: (Ryzhonkov, 2013)).....	160
Figure 8: The Incubation Process (Source: (2012)	161
Figure 9: Factors influencing Virtual Business Incubators (Source: (Ryzhonkov, 2014b)).....	162
Figure 10: External Environment of Business Incubation Program (Source: (Ryzhonkov, 2014a)	162
Figure 11: CIP Structure (Source: (Lopriore, 2009)).....	173
Figure 12: Percentage of structural funds allocated to SMEs in 2007-2013 (Source: (Lopriore, 2009)	174
Figure 13: Real GDP growth rates in the Southern Caucasus states, 1996–2008 (%) Source: (Kathuria, 2008). Graph: ETF.....	180
Figure 14: Number of Operating Enterprises by their Size in Georgia (Source: (Papiashvili and Chiloglu, 2012)	185
Figure 15: Enrolment of Students in Middle VET as by Academic Year 2008-2009	193
Figure 16: Bayesian network for the sustainable economic development.....	206
Figure 17: Probability values of the labor skills in the selected countries.....	208

List of Tables

Table 1: Business Incubator Typology by sector, financing and goals, (Source: Lalkaka and Abetti, 1999).	158
Table 2: Share of SME Labor in Total Labor Force in BSEC Countries (Source: (Entrepreneurship)	175
Table 3: Total consolidated budget revenues, 2000–2007, Source: (Sikharulidze and Kikutadze, 2014).	181
Table 4: GDP per capita, 2003–09 (USD), Source: (Godek and Ordovery, 2009)	182
Table 5: Income, per adult equivalent (PAE), real 2007 prices (GEL), Source: (Bank, 2015c) .	182
Table 6: Poverty rate, 2007 (%), Source: (Bank, 2015c).....	183
Table 7: Poverty by Region, 2007 (%), Source: (Bank, 2015c)	183
Table 8: Foreign Trade of Armenia from 2003-2012	195
Table 9: Selected Indicators of Albanian Economy (Source: (Fund, 2001)	199
Table 10: SMEs related to added value, employment, and number (Albania vs. the European Union),(Source: (Çela and Gaspari, 2015)	204
Table 11: Variables for Sustainable Economic Development in Bayesian Network	206

List of Abbreviations

VET - Vocational and technical education

ADA – Austrian Development Agency

WKO - Austrian Federal Economic Chamber

ADB - Austrian Development Bank

EIB - European Investment Bank

ASEAN - Association of Southeast Asian Nations

R & D – Research and Development

IHK - Industrie Handels Kammer

EaP – Eastern Partnership

ENP - European Neighbourhood Policy

HEI - Higher Educational Institutes

SME – Small and medium-sized enterprise

ASEM - South African Development Committee as well as the Asia-Europe Meeting

EMP - European Mediterranean policy

CSCE - Conference on Security and Co-operation in Europe

ACP - Association Cooperation Partners

AA - Association Agreements

PCA - Partnership and Co-operation Agreements

DCFTA - Deep and Comprehensive Free Trade Areas

GNP - Gross national product

CTA - Capital-theory approach

IMF - International Monetary Fund

SDS - sustainable development system

SNA - Systems of National Accounts

GDP - Gross Domestic Product

NRA - Natural resource accounting

EEU - Eurasian Economic Union

ODA - Official development assistance

BRICS - Brazil, Russia, India, China and South Africa

MIKTA - Mexico, Indonesia, South Korea, Turkey and Australia

PALOPs - Portuguese-speaking African countries

ICD - International cooperation for development

ICT - Information and communication technologies

R & I - Research and innovation policy

OECD - The Organization for Economic Co-operation and Development

ÖRNE - Austrian Council for Sustainable Development

NQF - National Qualifications Framework

HTL - Higher Technical School Austria

INSTAT - The Institute of Statistics Albania

PPP - Public-Private Partnerships

WIFI - Education and Training for Companies Austria

BMFWF – Austrian Federal Minister of Science, Research and Economy

CSR - Corporate Social Responsibility

SDG - Sustainable Developments Goals

1 Introduction

Globalization has become a key definition of the processes of the reproduction of society, in particular such as business and innovation policies. The policy of regional development has transformed into a compensatory mechanism for less prosperous regions. In the context of global interdependence, they are increasingly considered important for reassessing the role of economic, political and socio-cultural factors in regional and global development. Given this dependence and the mutual influence from global level to regional level, the concept of regional development evolved, incorporating in many respects the elements of sustainability approaches, from purely economic theory, to a comprehensive format that takes into account the ecological and socio-cultural aspects of the reproduction of society. The duty to meet different needs and the local–global view also can be found in the discussion about regional development, which, within the framework of the emerging new theoretical platform, is more often displaced in the field of trans-regional approaches.

The global trend in shifting the dynamics of the development processes to the regional level has created a new framework for theoreticians and economists in the search for new approaches to optimizing and balancing the asymmetries of the development of regional economic systems, both within the EU of developed regional countries and those that are the most critical EU external regions and transition regional countries. Thus the problem of global sustainable development in the 21st century has been the asymmetric process of intra-regional development.

This contribution researches the fundamental choices and formative developments in the external regions of the European Union and exchanges of the regional strategies of EU member states. The region has experienced significant political and economic transformation and challenges in the last decade. The nation-building and economy-building achievements remain open, notwithstanding the societally acceptable strategic preferences in the Eastern Partnership countries as well as post-integrated subregional space e.g. Western Balkans over the respective models of modernity. The politics of societal and state modernisation face continuous re-evaluation and re-conceptualisation, while formulation of the political and economic agenda of priorities remains in-progress.

Europeanisation has become one of the legitimate and conceivable paths for modernisation in the external regions (post-integrated Western Balkans, Baltic states) and Eastern neighbourhood. The European Union has aspired to invest and contribute considerably to domestic and regional stability and development in the neighbourhood. The Eastern Partnership initiative has provided the main political framework and practical toolbox for fostering the transformation, mutual synergy, closer association and mutual reciprocity. The EU remains attractive and appealing for a number of countries and societies in the region. Following the established approach to Europeanization from the point of view of downloading and up-loading, which in the literature is correlated so far only with European internal politics, each of these "situational" conceptualizations makes it possible to provide clarity of empirical reliability from a certain point of view. It should be taken into account that each of them individually has grounds in the positivistic methodology that allows the separation of phenomena into dependent and independent variables, which on the whole gives a greater explanatory effect to the cause-effect relationships. Dyson (2000) defines the acceptance of the positivistic perspective as the possibility of a potential loss from view of the complex interdependencies between the strategies and the discursive constructs of constraints and opportunities within the framework of the European integration process.

Proceeding from the need for a more comprehensive understanding of the process of Europeanization, outside the EU, the so-called EU policy on external regions, theoretical lenses downloading and up-loading can be transferred to the external field of European policy in order to identify aspects of compliance and non-compliance, and to identify the interaction of elements as an example of a "process". This indicates an objective presence in the analysis of the elements of constructivism, the main condition-the consequence of which is the variability of the variables and the continuity of the results obtained. This is evidently due to the complexity or multidimensionality of the process of Europeanization outside the EU. The already conceptualized and well-established understanding of Europeanization in terms of downloading and up-loading imposes an external regional dimension, which introduces a number of complex conditions for the application of theoretical constructs explaining this process within the EU.

Europeanization, can be measured in terms of changes in five indicators, such as changes in external territorial boundaries; institutions of governance created at the supranational level; the influence and superposition of supranationality at the subnational and national levels; export of the management and policy procedures specific to the EU outside the EU; a project of a political nature aimed at intensifying the unification of the EU. The main driving forces for Europeanization at the regional level (or regionalism formulated in the theoretical framework of EU foreign policy) are still states that are taken, directly or indirectly, by all theoretical approaches, whether state-centered, socially or internationally- network oriented. The main motivating factors are that, as before, there are still mutually beneficial international and transnational trade regimes, a reduction of political and institutional costs, improvement and security of the investment climate.

European integration and its determinative regional dimension have provoked the spread of the interstate approach to other areas, but mainly the structural rationale for the process, in which Member States and their governments are recognized as the main agents of integration, and in our study this approach works in terms of recognition of Member States, members as providers of Europeanization outside the EU (Hoffmann 1982; Taylor 1991).

Modern approaches, such as neofunctionalism or multi-level governance, developing outside the state-centered paradigm, encompass those dimensions at the regional and trans-regional levels that form a new agenda for states as still leading actors, and set new milestones in international network formats (Haas, 1958, Sandholtz and Stone Sweet 1998, Hooghe and Marks 2001). This formed a new approach to the analysis of which was not the subjects of the action, but procedures, such as the drafting of contracts, the formation of regimes and normative platforms. Generally, from development of the conceptual mainstream and theoretical insights of Europeanisation, followed three basic narratives which can be singled out - integration, cooperation and governance, which have different conceptual aspects from different theoretical schools. At the same time, the main controversial and transitional developments of this meta-concept are the two dimensions-regionalization (built prior to the 2000s in the EU space) and an external dimension of regionalization, involving the implication of the internal logic of EU development in external regions, and the neighboring space that was not drawn up for today as an integral conceptual construct.

The three aspects within the framework of this approach to classical theories can be broadly divided as proposed by Börzel into three blocks of articulation of regional cooperation: neoliberal institutionalism and rationalist functionalism, political economy approach, and liberal theories of international relations, neofunctionalism, rationalist society-centred theories and constructivist approaches. The theoretical eclectic of Europeanization is equally explicated, in one way or another, in the direction beyond EU member states , of regional development (Börzel, 2000).

The state-centered approach is also characteristic for the research of the components of the so-called regional construction. At the same time, the "new regionalism" has a significant difference, and therefore a great workload for Europeanization outside the EU, by virtue of its departure from the recognition of the state as a central player in regional or trans-regional processes. Fawcett (2005, 24) formulates new forms of regionalism in terms where "the state is no longer the gatekeeper of regionalism." This emphasizes the importance of the trend towards social construction of regions, the increasing role of civil society institutions, participation in the decision-making of more actors, the importance of human capital.

If, according to Solingen (1998), the basis for the transit process of globalization to the regional level is social and economic interests accepted in theories of political economy and the theory of international cooperation, nevertheless these interests are channeled through the internal political process of interest aggregation and interest representation. States at the same time are providers, both internal and external, in their function of providing access to international decision-making processes.

The greatest degree of integrative and trans-approach potential to connectivity as well as correlation of different structural levels of action in the trans-regional format is neofunctionalism and rationalist society-centred theories. Neofunctionalism focuses on the expanded membership of the processes of regionalization, in which small groups of interests, such as NGOs, professional associations, trade unions, etc., take on a special role. In other words, direct beneficiaries. Thus, structurally, these actors are the main functional elements of trans-national and international networks. This is the general difference, for example, from liberal intergovernmentalism. Regionalism itself ensures participation in the international process in addition to state structures. The role of the regional actors in Stone Sweet and

Caporaso (1998) and their driving functional is expressed in the mild provocation of governments to create more effective regional institutions to promote (in particular) trade liberalization. Thus, the promotion of the Single European Market and the single currency, as a uniting process, took place within the framework of the targeted cooperation of European companies and close cooperation with the European Commission (Sandholtz and Zysman 1989, 111; Cowles 1995). Neofunctionalism and the multi-governance approach, as one of the basic theoretical segments of a great theory, consider trade unions appealing to the functional support of supranational structures such as the European Commission or the European Court as the main structural element of regional institutional reproduction or building.. Schimmelfennig (2015), in this case, considers the procedure for the formation of a legislative framework based on the making of European Treaties, as a unit of analysis of their theoretical claims.

Proceeding from a perfectly logical message, (Haas1961; Haas and Schmitter 1964) states that it is impossible to form and mobilize social interests in favor of forming a regional community in conditions of authoritarian regimes characterized by low level of social and economic development and social transactions, rationalistic society- centred theories are oriented exclusively to a developed market economy characteristic of liberal democracies as the main condition of regionalism. According to Solingen (1998), under such conditions it is difficult to explain regionalism and its features of development in other parts of the world, besides, it points to the development of regional integration structures not determined only by liberal internal structures. Hettne (2002), identifies in the rationalistic and constructivist approaches, two variations of the development of regionalism can be distinguished: exogenous and endogenous. So the first are oriented first of all on external causal factors of regional construction. According to this approach, institutional similarity does not mean the possibility of borrowing models at the regional level as a result of mutual decisions. The logic of making decisions aimed at developing, for example, anti-crisis measures or instruments, is similar to what is being adopted in other parts of the world, other economic and political systems.

The third factor of difference concerns the role of non-state actors, which correlates the situation with the bottom up approach in the trans-national context. Socially oriented theories have acquired one of the basic dimensions in the concept of sustainability, which led to the

societal orientation of regional development strategies, structures and instruments. In turn, the basic requirement of sustainability is the socio-ecological priority in development, which, as a determinant for Europeanization, defines it as part of the technology transfer process. When considering the socio-construction forms of regionalism, the state is given a formal role in the process of institutional construction. In modern connotations of regionalism and regional construction, regarding the concept of security in a community Deutsch remains more than relevant in the parameters of homogeneity and inhomogeneity of the region, which is often interpreted as the most important factor in the possibility of constructing effective integration structures.

Although the mainstream theories define economic interdependence as the driving force behind regional integration, they do not fully have a legitimizing tool for processes of a wider and higher level of regional cooperation, due to the limited theoretical framework for the admission of additional factors of influence on regionalization processes. For example, the factor of intersectoral interaction is often not allowed as a condition for effective regional development of the process of transformation, it is more concerned with transitional forms of economies, in particular post-Soviet space.

The space for maneuvering of Austrian foreign policy has been increasing, with the deepening and complication of the processes of Europeanization, at the same time, since the beginning of the 21st century, these processes have been associated with the transformation of European neighborhood relations, which also affected the internal institutional and structural-functional transformation of the EU member states. This is facilitated by the main Europeanization process of regionalization, in connection with which there is a strengthening of another concomitant factor: the adaptation of new multipurpose approaches and corresponding networking tools. This adaptation is adequate for the regional realities of the interdependence of different levels of society's reproduction, classical dimensions of politics, socio-cultural, socio-economic, and present socio-ecological elements, and the integration of national strategies as an alternative augmented reality for optimization action under multilateralism at the regional level, having in view the availability of current unilateral, multilateral and bilateral approaches.

Given the fact that the problems of international and trans-regional cooperation are complicated by structural, functional and institutional factors, this is compounded by the

complexity of the functional representation between the actors at the regional and local levels. It should be mentioned that the EU is undergoing a successful integration process. In particular in the sphere of cooperation under the European regional, or neighbourhood strategy. The success of such an approach lies in development of effective multilateral institutions. Obviously, this method meets the need of convergence on different levels of the system and sub-system components, such as the sub-regional fields or „External regions“ (external-EU regions). This shapes the activity of Austria in the external regions which are inclusive dimensions of the trans-regional format of cooperation for development and innovation promotion. This policy is aimed at inviting Austrian partners into cooperation with international organizations where Austria participates. Austria main aim is the development and strengthening of the EU. This approach to foreign policy is the foundation of the Austrian term neutrality policy or inclusive neutrality. Exploited from the perspective of their implementation, the Austrian sub-regional strategy is expressed institutionally. Austria participates in almost all components of sub-regional institutions, regional initiatives: Central European Initiative, institutional incorporation into the regional process cooperation through ADA, WKO, Austrian Development Bank, European Investment Bank and international cooperative structures included.

The Black Sea Caspian region plays a role as a platform for the implementation of projects which its significance goes far beyond, as well as Western Balkans region, and from which it is produced as a "connection axis kexit", which are objects of Europeanization and this research, in its technological dimension. Buzan's security complex is developing in the foreground of the concept of Karl Deutsch (1957) in the modern dimension of regionalism, the security complex is more concerned not with hard security, but with a level of integration and the ability to interact effectively at the regional level, with the potential for effective restructuring both within a single industry and complex, which acts as a guarantee to external actors-donors, in particular the EU. This logic could be used as a matrix for regional studies. This «regional community complex» concept provides an opportunity to connect within region's states with relations between states in the same community complex, as well as collaboration of one complex with other complexes and with global super powers. The regional community complex concept could be used to analyze the Black Sea Caspian region it is usefulness. Especially when main regions' actors are separated based on regions' insiders

and outsiders. There are still both theoretical and practical threats because of different structural units. There is a problem of state's institutional participation with national development strategies in international organizations. In other words, there are different positions of national states on European and sub-regional levels. This provides qualitative new tasks on a systematic analysis of correlative relationships between the European and sub-system component (sub-regional systems, if the Black Sea Caspian Region or Western Balkans region is such), and to promote mechanisms for capacity building in sub-regional communities, aligned to convergence toward the European innovation framework and institutional network. Buzan's concept can be conveniently interpreted in a broader lens of regional construction, especially in the aspects of transition and implementation of regional development sustainability approaches.

It should be noted that the EU is actively implementing the transferal process of the trans-regional integration framework. At the same time, the development of the process takes place in all dimensions of governance, both bilateral and multilateral, which is due to multi directionality in the target areas. Such programs, such as the European Security Strategy, the European Neighborhood Policy, and the Eastern Partnership Program have both a complex regional character, and a sectoral focus on more localized programs, for example ENVESEC, HORIZON2020, Central European Initiative, including the activities of the EU Member States, WBINCO Austria for the Western Balkans project on the development of small and medium-sized businesses, etc. The success of this approach is development of effective multilateral institutions. Obviously, this method meets the needs of convergence at different system levels and subsystem components, such as sub-regional fields or "External Regions". These forms of external activity in regional states are characterized by a functional network involvement.

The trend of decentralization of European politics is denoted primarily in such areas as complex determinate regional institutional building. This complexity of the good governance approaches field puts on the agenda of search optimal model of providing process within multilateral format. Two factors that are in dichotomic interdependence, EU and member States, process operators or providers at the regional level are determined by the degree of involvement and self-restraint, and are correlated through a supranational and transnational system. Thus, on the basis of the diverse multidimensional operationalization and conceptual

aspects of development that are contained in integrated regional development, and also including the representatives of different approaches to external management, it is impossible to integrate into the universal version of good governance as a whole. When this analysis is based on the identification of „critical tools” on the designated conditions of development regionalization, the formation of multilateral cooperation systems at sub-regional level should be how the degree of correlation of national policy is determined. It changes and challenges the process of optimizing regional strategies toward a comprehensive approach perspective. This analysis is important to fix the determinants and politics in the process of transformation of the domestic political discourse of individual actors in relation to regional multilateral cooperation formats.

Considering the fact that stability during its legitimation in theoretical and applied dimensions, as local and global strategies, has acquired an obvious and irreversible technocratic dimension of providing technology. Innovation has conditioned the transformation processes of national strategies towards regionalization. The most vivid and objectively positive example is Austria. In this view governance is a complex or an augmented reality integrating in the praxeological manner approach to regionalization, in terms of transitivity and sustainability.

Based on the generally accepted in the studies on the management of institutionalized rule structures, which includes three basic components: hierarchy, market, and networks, coordination is built according to the structure being formed, which is subsequently conditioned by the functional component of the actors. Hierarchical coordination implies normative behavior, side by side with the bases of the adopted laws, which limits the actors in the flexibility of their actions regarding the requirements of the situation. On the contrary, non-hierarchical coordination presupposes a flexible process of developing and making decisions on the means of the negotiation process. Thus, following the above logic, management is perceived as a set of tools for coordination, through which the decision-making process is carried out (Scharpf 1999; Mayntz 2004).

A system-forming connotation of Europeanization in the regional dimension (external regional dimension) is the sustainable development of the region, and therefore the main problem of the traffic are three problems - impact of Europeanisation, implementation of

innovation in transition regions, and inter-regional dimension of Europeanisation. The problem of technological development and the instrumentalization of the transfer process is now becoming the integrating platform that actualizes management and functional approaches to regional development in the system of stability coordinates. The structural and functional dimension of regional sustainable development is based on the existing interrelation of the trends of stability as a mega-trend, and innovative development and the corresponding technology in its framework. This in turn determines the structure and functional approach to regional problems such as trans-boundary cooperation and the possibilities of implementing such approaches as territorial development, by analogy with Euro regions. An example of the potential implementation of the EU experience may be the program for the development of transboundary cooperation "Green Triangle" in the South Caucasus, a unique place in its natural and climatic conditions, located in the border zone at the intersection of the Georgian-Russian-Azerbaijani border (northeast of Georgia, Lagodekhi region, north-west of Azerbaijan, Balakan and Zaqatala regions and southern regions of Dagestan (Russia). This project has great potential for the implementation for protection and safety (water and vegetation) of resources, technology development, creation of technology clusters to solve problems of human capital development in the region etc. It additionally has the potential for an integrative process in the region, and to reduce the risk of conflict.

Thus, governance, both internal or external levels, are presented in a structural- functional format, in other words, it consists of a structure and a process. Structures are formed by actors, while management processes are ways of coordinating actions. A similar vector for today is the development of trans-regional relations, constituting multi-level communication formats both at the regional level cross-border and trans-national cooperation, which brings about the effect of space defragmentation both structurally and functionally in terms of building an institutional construct and corresponding modes.

Given the basic difference in the governance structure and processes, the defining analytical factor in this is their structural and functional dimension or role. This approach is determined by the fact that governance structures are not determinative, but are conducive to the ways of coordinating certain social, political or economic processes. Considering the fact that

governance structures can have a character, both formal and informal, in empirical examples we often find mixed variants of types of management regimes, especially for regions and countries with transitional economies. Such mixed management regimes form the order of structuring regional relations in such a way that the institutional architecture of intergovernmental cooperation on the one hand and the supranational integration on the other are not limited, in this case we mean trans-regional professional and corporate networks. According to the Börzel (2010) mix, the EU regime combines intergovernmental negotiations and political competition in the context of the hierarchy formed by supranational institutions.

The concept of sustainability in its meta-theory provides the basis for creating a matrix of different configurations - a structurally functional character that can be the basis for reconfiguring the region in a transition region. Neofunctionalism can be embedded as a theoretical framework into a new approach to building and applying models - regional strategies for promoting innovation, multilevel inclusive structures of governance and socially constructed approaches as a e.g. knowledge society based approach. The concept of sustainable regional development is a transitory tool that theoretically legitimizes the forms of constitution of the processes of erogenesis and transitology of a process into a regional space. In fact, it provides transitional transport from the theories of Europeanization to practical (applied) measurement - the implementation of development models by representing the post-factum of stability built in space as a new development continuum.

In light of the search for a new integrative and legitimizing correlation model in the applied dimension of Europeanization beyond EU (impact and efficiency) and regionalism (internal transformation), sustainability assumes the greatest structural, functional and legitimizing significance. The theoretical framework is actualized as a synergistic matrix of approaches that generalizes and forms an applied approach for processing Europeanisation and provides the basic parameters such as impact and effectiveness of Europeanization beyond EU, in external regions.

Sustainability paradigm has an obvious difference from widely used sustainable development, which immanently contains an understanding of the transition process. The distinctive point of sustainable development, in this context of the conceptual field of Europeanization, is its direct correlation to the governance approach, from the general

theoretical insight of Europeanization that is basic in the process of promoting regional transformations. However, given the fact that the sustainability concept is analytically something like a "melting pot" of different approaches to regional development, which is also justified by empirical material, does not justify the assertion that development implies quantitative growth. In particular, this is confirmed in the concepts of regional sustainable development, where the interconnected determinants are the process, often caused by the factor of transitivity, and as a result, the qualitative transformation of procedures as a necessary condition for structural and institutional transformations.

In the literature devoted to stability studies, its characteristics are identified as the interdependence of the basic branches of social, economic and ecological life of society. It is on this principle that the architecture of actors' participation in the implementation of the sustainability strategy is usually built. Also, one and the principles following from the first one is the requirement of cooperation at the local level in accordance with the global context (Thierstein and Walser 1997, 2).

As indicated above, following a binary model of exogenous and endogenous factors, regional development is a complex synergistic process of identifying factors that affect sustainability in various areas. This characterizes the process of sustainable regional development as a complex systemic interaction and correlation of factors of social interconnection, models of communication, primarily intersectoral, and institutional statutes.

Based on a systematic understanding of regional sustainable development, the basic principle of formulating one dimension of sustainable development, namely processes, is the question of how to act. This, implicit in the systemic understanding of sustainable development, the principle involves planning and a system of measures, in particular management based on a progressive transitional process, with a long-term commutative effect. This indicates the existence of different approaches to sustainability depending on the region, but the basis should be a unified principle of identifying problem areas in the system of socio-economic relations, the principles of institutional reproduction of society and external factors, as well as a functional approach that implies the possibility of intersectoral interaction.

The problem is directly contradictory to the principle of sustainability based on complexity, which is also supplemented by the global factor incorporating regions into global economic

networks in the context of these processes, is a segmented approach to the implementation of the principles of sustainability.

Sustainability as a tool and a mat-theoretical form, integrating interdisciplinary approaches, forms and models of intersectorality, and a trans-regional format for transfer regimes of normative and innovative forms of re-extratrization, is revealed in three dimensions of the reproduction of society. The interaction within the triangular continuum formed by the basic principles of sustainability is described by one of the leading researchers in this field as follows: "The economic view is geared towards improving human welfare, primarily through increases in the consumption of goods and services. The environmental domain focuses on protection of the integrity and resilience of ecological systems. The social domain emphasizes the enrichment of human relationships and achievement of individual and group aspirations. The interactions among domains (represented by the sides) are also important to ensure balanced assessment of trade-offs and synergies that might exist among the three dimensions. Issues like poverty may be placed in the center of the triangle to re-emphasize that they are linked to all three dimensions" (Munasinghe 2002, 18).

The quintessence of the theoretical development of sustainability is the search for a systemic and long-term basis in the socio-ecological system (Gallopín 2003, 8). At the intersection points of these key areas are the so-called transition corners and intersectoral connection lines. They constitute those potential "critical areas", to minimize which a systemic approach is needed along with, a governance approach. These include tools to minimize the risks associated with the adverse effect of negative consequences of reforms in the external region, for a technology investor, in this context, in the role of an investor, we mean the countries of Central Europe. Models containing as tools risk mitigation strategies are critical for the integrating space, in terms of preventing asymmetry in development.

The governance point in EU studies is largely due to a change in the nature of the regional policy of actors or member countries, an explicit characteristic of the EU policy that is, a direction to the outside, and a change in the parameters of the basic concept of Europeanization. In turn, management is not an analytical basis for the processes of regional transformations, but serves as an indicator of qualitative changes in the processes of transition, which gives grounds for comparative empirical models of regions and applied to

them, for example, external governance tools, their effectiveness. Based on the connotation of structures and processes within governance (in this case, we mean external governance) the structural and functional method in the study makes it possible to define institutional structures as trans-regional subjects, respectively, as procedures for the formation of norms, regimes and formats (in the continuum of transition). It is one of the most common instrumentalized approaches to regional development, for example, implemented in the regional strategies of Austria, Germany and other countries, in some form or another.

At the same time, structures and procedures are subjective management objects. The goal is to obtain mutual benefits in a certain perspective, while in the context of Europeanization it is advisable to consider this "good" not as a mid-term or short-term reform effect in a particular sector- human rights. This is also the case for democratic institutions'' (which definitely, given the complexity of the regional socio-political and socio-cultural landscapes, has a very vague perspective, in terms of both time and structure) minimization of risks in the process of transformation and their temporal and structural parameters, which underlies the concept of "good governance". Minimizing the risks, which depends on the identification of the "critical areas" (usually identified in the structure of the intersectoral interaction, based on approaches such as triple-helix modeling of structures, or the model described above - the triangle of the base segments of the system- vocational and education training (VET)) in this context is one of the tools based on complex conceptual knowledge based society and research and development (Rand D) approaches, and is also a basis for promoting the learning framework. In this case, the freemarking is a format of the trans-regional regime of permanent inclusion in the transition process of regional economies, structures, actors etc., in the matrix of innovation implementation. In other words, this is what distinguishes export one-off from the process of innovation and technology implementation with a focus on long-term and effective interaction of transition countries toward the European framework.

Problem position:

There are still both theoretical and practical threats because of different structural units. There is the problem of state's institutional participation with national strategies on the external regions in an international context. In other words there are different positions of national states on European and sub-regional levels. This provides qualitative new tasks on a

systematic analysis of correlative relationships between European and sub-system components (sub-regional systems, if the Black- Caspian Sea region is such), and to promote mechanisms for capacity building in sub-regional communities, aligned to convergence toward the European normative, innovation and cooperation network. In terms of supplements developed empirical and normative approaches of regional sustainable development fields adopted final declaration for example Agreement of Free Trade Association, which sets a top priority the development of regional and sectoral specifics of development policies, take the comprehensive approach as a basis strategic perspective. This captures the trend, which is built on an approach based on effective management, which fixes full complicity in approaches to development and innovation at the regional level. That allows us to consider strategies for implementing systems of external-states (great powers) and the EU and the international organisation on the regional level, taking into account one of the main trends in the development of international relations, through the prism of optimization strategies from a regional perspective toward an indivisibility of the European framework.

It should be noted that the EU is actively implementing the transferring process of the trans-regional integration framework. At the same time, the development of the process takes place in all dimensions of governance, both bilateral and multilateral, which is due to multi directionality in the target areas. Such programs, such as the European Security Strategy, the European Neighborhood Policy, the Eastern Partnership Program etc. have both a complex regional character, and a sectoral focus, and more localized programs, for example ENVESEC, HORIZON2020, Central European Initiative, including the activities of the EU Member States, and WBINCO Austria for the Western Balkans project on the development of small and medium-sized businesses. The success of this approach in development is effective multilateral institutions. Obviously, this method meets the needs of convergence at different system levels and subsystem components, such as sub-regional fields or external regions. These forms of external activity of regional states are characterized by a functional network involvement.

One measure of Europeanization in the context of regional development and integration into the European network is the reverse effect in the long term. That is why the effectiveness of

structural transformation in the context of intersectoral interconnection is of key importance. Austria is one of the main actors contributing to the process of Europeanization and through this subject of providing to external regions it poses the problem of how the promotion of the Europeanization process in the Western Balkans, South Caucasus regions and other external regions of EU policy has influenced Austria's domestic policy as an EU member.

The approach of stability, its systemic nature, consists in the necessary condition of continuity, which is determined by the terms of resistance to crises. It is this condition that creates such a problem for countries with economies in transition, as a consistent and effective procedure for implementing transitional measures. The inter-sectoral integrated approach to the empowerment of the systemic transformation of the socio-economic structure is of particular importance, and is updated in the space of sustainability in particular, as regards the transfer of technology and innovation through the providers of EU members. The process inter-sectoral integration is exclusively connected with complex structural transformation and in this case requires the commutative tools of sequential sectoral restructuring with aim of sequence of qualitative changes. Approaches and models built on the internal principle of connectivity, such as smart specialization and triple helix provide consistent and long-term effectiveness for local application of technologies and management models in this or that sector.

Innovation policies and models such as research and development (R and D), research and innovation and knowledge- society based approach, as well as Territorial Employments Pact, are clearly aimed at increasing competitiveness from a global level on a national scale to a local scale across the country. At the same time, in such models, the priority of actions is not in the maximum short-term surplus product, but in optimizing the process of restructuring socioeconomic systems. The goal of this is to resist recession of crises and to maximize the balancing of the functioning of individual industries in the complex of the system of the economy.

Governments in such contexts often resort to mimicking the economic priorities and instruments of advanced countries. We suggest a trajectory for transition countries to avoid the widespread pitfall of poorly defined innovation policies by upgrading and changing their industrial policies in line with the ideas embedded in the concept of innovation strategies for

smart specialisation (RIS3): (1) Build a trusted 'competence centre' to provide a comprehensive analysis of your economic fabric and coordinate the process; (2) Begin with one strong economic domain in which engaged stakeholders work together with government bodies to define joint priorities and actions (domain experimentation); (3) Start with one region to experiment with different approaches at subnational level (territorial experimentation); (4) Sequence your process in a way you can harvest the low-hanging fruits in the short-term (non-R & D measures), focus on the core of your activities with high potential in the medium term, and leave R & D-heavy breakthrough programmes for the longer term.

The trans-regional dimension of the institutional transformation processes (social and private sector, civil society institutions, gov- and non-governance sphere e.t.c.) is revealed in direct dependence of the policy of international organizations and state policies in them that carry out their interests in this or that region. More often in recent times, such trends have become development policy, crisis management, good governance, and anticipatory governance.

Critical areas whose sources are in the field of conditional factors of the correlation of actions and strategies of the subjects involved in the institutional area of interactions on the one hand. On the other hand, local networks emerging at a new level of interaction, generating a larger resource with the inclusion of new levels and entities, are more free. Evidence of this is the processes in the political sphere, where actors such as civil groups and associations receive more space, as well as an economic sphere with a growing share of small high-tech production. This, in turn, forms a new standard that should also be considered or introduced into critical areas of political and economic processes, with the choice of new management tools.

The relevance of the study is that the Europeanization process is explained in many different ways, and there are many approaches that explain how, at which levels, and how the process of Europeanization in a spatially subjective dimension (regionalization from internal to external explication, to external regions and within transnational and trans-regional connectivity levels etc.) is changing the objectives of Europeanization. At the same time, it should also be explained how agents or subjects of Europeanization are formed by the same process. What is the role of actors as a regionalization provider, innovation transferring and

the tools they use, in particular Austria, in shaping the sustainability space and the transfer regimes of both instrumentalized models and the regulatory component of the process?

In this study, an attempt is made to analyze the progress of transferring the Europeanisation process in foreign regions, using the example of countries of the Western Balkans and the South Caucasus in a comparative manner, by providing instruments of the member states in this study to Austria for models of regional sustainable development. Also in the analysis framework, a structural and functional method is included to assess the degree of effectiveness of instruments for promoting innovation in transition countries, as well as to correlate national strategies for regional sustainable development of provider countries, in this case Austria, with a Pan-European multilateral approach.

The research dimensions can be divided into three groups:

- Internal (Austrian domestic policy discourse; for example, how Austrian internal discourse impacts normative content of European integration and multilateral mechanisms of regional and sub-regional cooperation);
- External (regional and sub-regional political space transformation within the process of Europeanization and incorporation of Austrian regional initiatives and activity, taking into account the specifics of the region's external actors. Comparison of strategies regional states and determinants such as external regional actors e.g. EU or member states. And And how Austria correlates interests in the regions of the Western Balkans and the South Caucasus within the EU strategy for these target areas of Europeanization?
- Trans-regional (EU), transnational and trans-regional EU neighborhood policy levels). Development of implementation standards and opportunities for areas and inter- sectoral instruments. Austrian cooperation with the Western Balkan states and South Caucasus regions pursues the following objectives: supporting economic transition and democratization, convergence with European institutions toward standardization and normatively space reconstructed, and improving the standard of living of the population, within above all in societal areas and the innovation sector. But a regional dimension faced one side of the crazy quilt interests of actors, threats etc., on the other hand it has a deep

relationship through the common threats, but also areas of cooperation which is a potential key area of growth and stability.

The relevance of the project is that the process of Europeanization has been explained in many various ways and that there are many approaches that explain how, on what levels and in which way the Europeanization process changes objectives of Europeanization. At the same time, it should also be explained how agents or subjects of Europeanization are shaped by the same process.

VET is a basically promoting tools for innovation restructurings, and smart specialization plays the role of a methodological construct for organizing the process for creating a platform for a comprehensive restructuring of the processes of organizing the reproduction of society at the regional level. In terms of sustainability, it is acts as a meta-conceptual construct which determines and sets the parameters for national development and foreign economic strategies. Sustainability fundamentally determines the structure and functionality of tools for providing innovation and building the connectivity learning framework as a connectivity space for transfer and employment innovative models of management and technologies for transition countries.

One of the specific examples of the costs of the Europeanization process in the regional dimension, and the critical areas that arise in it, can be cited by infrastructure projects. Usually, infrastructure projects are constructed and built within a specific region, location or place. Their scope and benefits, however, are often of a trans-regional nature. Whether grid-bound or location-bound, the politics around infrastructure projects are contested. A diffuse public acceptance for more general societal goals, such as the transition to renewable energy sources and a reduction of technology traffic predominates, but the planning and realization of specific projects often faces societal and local citizen resistance. Are divergent regional interests balanced or accommodated in political and planning decisions? In what way do infrastructure conflicts impact on processes of regionalization? Are regional units or territories constituted as actors in infrastructure conflicts? How this is reflected in a complex change in the design of inter-sectoral relations between the private sector, government, civil society and academia, what are the conditions for application of Triple Helix and Quadropole Helix models?

Respective questions could be:

- Analysis of infrastructure conflicts along regional dimensions or heuristics: research will often follow cost-benefit assumptions of political economy approaches which, inter alia, submit the application of the “NIMBY” (not in my backyard) principle in political processes on infrastructure projects. Do systematic differences in positions occur, for example, between regions benefitting disproportionately from cross-cutting national projects and those facing comparatively high costs? Are regional and societal reactions and interactions mediated by ideological conflict? For instance, regarding technologies or accepted levels of environmental and social risks? Which role do cultural landscapes play in infrastructure conflicts?
- Exploration of effects and impacts of infrastructure conflicts in multi-level and unitary systems of government: how multi-level structures impact the field of infrastructure projects. Do, for instance, federal political systems facilitate an effective implementation of the principles of subsidiarity and democratic accountability? Do processes of solidarity between constituent states or regions evolve? Conversely, how do unitary systems of government perform? Do processes of regional mobilization transcend boundaries of constitutional units or statutory bodies?
- Analysis of regional, national and transnational policies and strategies of communication, interest representation and conflict accommodation: submissions may refer to policies and programmes of participation and conflict resolution in the field of infrastructure projects. How do regions account for increased citizen protest and decreasing levels of public acceptance? In what way do participatory and deliberative instruments influence decisions and decision-making in areas of representative democracy? How can new public instruments be integrated into existing institutional structures?

Research focused on the promotion of the Europeanization process by Austria has shaped foreign and trans-regional cooperation policy through correlation transformation of regional cooperation, regional sustainable development, institutionalization of social and political initiatives, transformation of the normative basis of regional states and development of the democratic institutions toward a good governance of regional framework.

The research will also analyze whether the process of Europeanization at the Black-Sea subregion and the Western Balkans is part of Austrian regional policy. The main phenomenon that is being explained is how the process of regionalization of security affects objectives or agents of Europeanization. In other words, Austria is one of the main actors that promotes the Europeanization process and through trans-regional cooperation towards sub-regional institutions the development of “External region» and it should be analyzed how promotion of the Europeanization process of South Caucasus, the EU and Austrian policy fields has affected Austria itself.

Research questions:

- Structures/actors: why can Austria be considered a Europeanization agent? Which institutions and actors (in Vienna and the Balkans capitals, and also at the highest European level) were responsible for the Europeanization process in the Western Balkans towards the South Caucasus region? How has the EU enlargement changed Austrian foreign and regional strategies and instruments? How were Austrian relations structured within innovation in transition regions within the EU during the Europeanization process in the Western Balkans and other regions? Which were critical factors that determined Austrian foreign policy and regional development strategy in the Western Balkans after enlargement?

- Mechanisms / integration results: what were the political decisions from Vienna carried out in the Western Balkans? What mechanisms has does the Austria exploited to agreement with the European institutions of its position on the regionalization at the Western Balkans and South Caucasus? What strategies for integrating the Western Balkans states to the European innovation framework were developed, and how? What “critical field” and „critical tools” was created as part of the institutionalization process?

Building of critical tools and indicators for indexing local public reform, government and non-government communications, instruments for comparative local government, local leadership and institutional cooperation.

- Networks: which institutional networks were created in innovation development frameworks in the Western Balkans by Austria? What and how were institutional networks for promoting innovation in the Western Balkans and Black Sea regions today created, and

how do they correlate to Austrian regional strategies with the other actors? Which actors at the national level in Austria, the EU and regional states (e.g. development agencies) have participated in the creation of subregional intersectoral (private sector, government, civil society and academia) networks? How did Austria's regional strategy for technological cooperation with the countries of the Western Balkans develop and connect them to the EU research and development institutional framework? And why did the “critical areas” into inter-dimensional field (National and European level) and on the cross-institutional level (European and sub-regional level and with national priorities policy) arise? How much does this model correlate with the possibilities of application in the South Caucasus region?

Evaluation of representative forms of the local networks: civil society institutions, governmental initiatives to open communication, affiliated foundations, research institutions.

Focus of research on identifying of the «critical areas» attitude toward the question of - whether «Europeanization» of the post-soviet space promotes overall improvement of integrability potential of the region, taking into account the factors of «insiders»- South Caucasus regional states as a Armenia and Georgia, and Western Balkans state of Albania as «quasi-state members», candidate of EU and «outsiders»- EU and Austria as well as normative convergence that furthers formation of sub-regional international society or even trans-regional community for innovation implementation.

There are clear indicators that the rise of processes in the broadening of regional sustainable development and simultaneous sensitivity of a European framework, in terms of essential functions of European institutions, states and an EU external action through multilateral institutional framework that participate in regional institutional building and cooperation has emerged in regional sustainable development.

Selecting the Variables

- The degree to which perception of innovation- providing strategies have changed in Austria as a result of the Europeanization process in the Western Balkans towards a planning of regional strategy for the South Caucasus region (DV).

IV 1: The degree of Austria's activity and involvement in the process of Europeanization in the Western Balkans towards a trans-regional correlative Black Sea region, particularly in the

institutionalization of regional cooperation economical actors - transnational concern, and associated organisations such as WTO, IHK, Industrie Handels Kammer, or ADA Austrian Development Agency, etc.).

IV 2: Effectiveness of the Europeanization process in the Western Balkan region according to K. E. Howell's (2004) classification of Europeanization (uploading, downloading and cross loading).

IV 3: The degree to which perception of interconnectivity within learning frameworks of regional actors has changed on the EU level as a result of Europeanization processes in the Western Balkan and South Caucasus regions.

Operationalizing the Variables

Possible indicators for the DV- regional initiatives, Austrian institutions for external activity (setting actors e.g. ADA, WKO, ABD e.t.c.).

Possible indicators for the IV1: how and why Austrian initiatives have been conducted on a supranational level (EU) toward subregions ("external regions"); Why mechanisms were used in Austria for this.

Possible indicators for the IV2: "uploading", "downloading" and "cross loading" of Europeanization in the subregions; How initiatives have been taken or initiated in the Western Balkans and how it correlated to regional strategy for South Caucasus.

Possible indicators for the IV3: How transformed of EU strategic of sustainable regional development (official paper of EU).

Research related to the four dimensions (governmental, inter-parliamentary, private sector and civil society) will focus on the promotion of cooperation between parliaments, representing the view the alignment to EU standards and an Austrian agenda for development. An intensified coordination between governmental and parliamentary dimensions, with the support of the international, regional and national development institutions will foster a cumulative effect.

To promote the implementation of effective triangular co-operation between public, private sector and civil society in strengthening good governance, a structural-functional approach

will be used to achieve maximum results in long term competitiveness and development of key priority areas in the Black Sea region.

Liberal inter-governmentalism, structural-functional (neofunctionalism) and multi-level governance approaches, by contrast, are built on the nature of domestic actors, such as business associations, trade unions, NGOs having a direct objective relation to the processes of sustainability, a clear need to implement such principles as international institutional networks, representativeness, intersectoral dialogue. Liberal intergovernmental approach, the basis of regionalism is still considered by state structures. In turn, neo-functionalism, as multi-level governance, on the contrary, prefers supranational structures (especially the European Commission, World Trade Organization, etc.), and trans-regional regimes.

Methodology:

The research focuses on the so- called ‘comprehensive approach’. This approach related in complex cooperation to create sub-regional multiple mechanisms, crisis management and examines steps taken at the Western Balkans and toward a perspective for South Caucasus regions and include external actors to improve their sub-regional inter-institutional normative coherence. The comprehensive approach is a transdimensional issue that lies in the cross-conceptual area of Europeanization as an export of the EU's subregional building, therefore the activity crosses with actors such as Austrian providers, which institutes activities toward good governance and capacity efficiency. It should be said that mentioned problems in regional sustainable development fields that correlate with regionalization are converged within the Europeanization concept.

The theoretical and methodological basis for examining the strategies of Austria for structural changes in the institutionalization process of the “external regions” in the period since 2001 until today offers the best of neo-institutionalism and discursive institutionalism (V.A. Schmidt, 2008). Historical institutionalism as a subfield of neo-institutionalism is used to explain the relationships between institutions and individual action. The research has the power asymmetries their focus on the impact of the decisions that conflicts of interest and their rejection between actors at sub-regional level (for example- Western Balkans and regional institutions) in Austria and also at the supra-national level (EU). Discursive institutionalism has a potential for certain research tasks in the study area and the correlation

between domestic political discourse and its explication of institutional-regional scope of action. For the Europeanisation and providing process of regionalization within innovation transfer to „External regions“ analyze through correlation with Austrian foreign policy applicable regional comparative analysis Besides, interdisciplinary nature of the research and research tasks determine the need for implementation to methodological bases of research such an approach as neofunctionalism.

Research makes use of state texts: agreements reached between Austria and regional states in various areas related to both Europeanisation process issues and bilateral relations in this area, as well as texts from state institutions, scientific institutes, research centers and companies' strategic innovation analytical materials devoted to energy policy issues. The research also makes further analysis of volume or degree of cooperation in humanitarian, political and economic areas. The main emphasis will be made on analysis of cooperation on governmental and non-governmental levels. Therefore, after gaining these data, there will be an analysis of critical tools which are needed for effective cooperation. Besides that, there will be assessment of correlation between sectoral cooperation and domestic political discourse relating to the exact region. This also will enable us to evaluate to what degree are different areas of the region dominant for external actors (Austria) and how this complies with development levels of the region in the context of a comprehensive approach.

A correlation will be also made between domestic and European discourses on regional policy issues, and designation of „critical tools“ as indicators explicated from regional context of relationship between external actors playing a providing of innovation role, including indicators of structural and functional dynamics in the regional context and factors changing strategic innovation development culture.

Europeanisation as a promoting tool of innovation in transition regions

1.1 Institutional and structural economical influence of Europeanisation

Following the two main instrumental dimensions of Europeanization – normatively (management, development of institutions, etc.) and integration (free market, technology, etc.). In the complex implementation of the programming of sustainable regional development at the regional level, the process of Europeanization in three main dimensions acquires successively the process of structural transformation, from the point of view of managing and distributing the accents. The consistent development of the Europeanization process within the framework of the implementation strategy (change) of sustainable regional development, where the main accents are human capital development is a key factor in the structural transformation of the transition economy. In the context of Europeanization increasing the efficiency of the regional economy in the transitional stage could be provided on the base of integration into the European research and development framework. To this end, another key aspect is being inherited the implementation of innovative technologies through structural transformations in the scientific and educational environment. These two key aspects are related to governance and the institutional structure that includes the state's role in terms of the role of innovation, and the priority of the transformation of the institute of science and education for the intensification process of implementing state strategies for economic transformations.

The impact of Europeanization outside the EU is revealed in the transition. or at the regional level in the complex or multi-target mode, first, at the levels of interaction or in the transfer regime - unilateral, bilateral and multilateral, this determines the multi-directionality of programs in a trans-sectoral mode (e.g. between economical and NGOs sectors or included governance structures and so on, by the, when implementing technological projects, for example in the field of renewable energy sources). This determines the de-facto impact - societal, economic and institutional. The concept of sustainability on the one hand legitimizes the global dimension of the EU and its policy as a set of transit instruments, both normative

(in external governance aspects) and technological, that provides the effect of introducing the foundations of structural transformation, which in general has the meaning of interdependence, and on the other the side giving the dimension of added reality to each of the modes of Europeanization implication. The external governance model, or the concept of good governance as a variation, in this context, is also becoming a common platform or determining factor for promoting in-transit countries innovative initiatives, for each individual direction. Modes of institutional impact is actualized in several aspects.

Based on the empirical experience of domestic changes in central and eastern Europe, three or trihotomy of EU governance regimes are singled out: structural factor- compliance, competition-implementation process or processing, implementation of principles (for example, liberal free market principles), network-communication, functional principle (Knill and Lenschow 2005, 591). This model can be projected onto the external governance approach in the regions beyond EU for promotion mechanisms or better to say the implementation of Europeanization.

Compliance in this case is understood and exercised to a greater extent as a market regulator, driven by market-based instruments of pressure, but not by institutional sanctions. Whereas compliance is linked to “positive integration”, i.e., the formal harmonization of national rules, competition is related to “negative integration”, i.e., the abolition of national barriers distorting the common market. In this mode of governance, the impact of the EU is less direct and works through market pressures rather than institutional sanctions. “Institutional change is thus stimulated by the need to improve the functional effectiveness of member states’ institutional arrangements in comparison to those of other participants within the common market” (Bauer, Knill and Pitschel 2007, 411). In turn, communication is the management tool that maximizes the process of achieving the good and the effect in a structurally functional sense without resorting to sanctions, but encourages voluntary (managed, based on observance of the principles) network of communication and institutionalization. Rather than direct sanctions from the EU or indirect sanctions from the market, it is the legitimacy of policy models that drives Europeanization.

The modern connotation of regional transitional economics development, built on a platform of sustainability, including defragmenting approaches of a complex nature to regional

development, gives grounds for considering structural transformations from the point of view of the stratagem and full-scale effect, under conditions of interdependence, on the one hand, and on the other hand from the point of view of the sectoral impact. This determines the problem of effective implementation of models that take into account the progressive impact, in terms of spill-over effect, or in other words, the commutative effect provided by the functional transformation of the economic and administrative architecture.

Hill and Smith (2005) identified the issue of the deliberate or artificial invocation of regionalism in external regions. They note that "the need to deal with the rich and powerful EU draws other states in cooperative ventures, especially in their international relations" and the list of the South African Development Committee (ASEM) as examples (Hill and Smith 2005, 396). Although the EU might have unintentionally triggered regional cooperation in these cases, the cooperation schemes did not follow the EU model of regionalism.

Following the development of the mainstream scientific literature on the development of regionalism, we can conclude that the dominance of imitation as a dominant mechanism world- wide until the 1990s. And since the third wave of EU enlargement, from the 1990s to today, a more direct approach to promoting regionalism, in other words, encouraging regional integration processes, is being dovetailed. However, the question of qualitative transformations, the target action of these or other instruments of the EU, remains an open question, primarily due to the heterogeneity of regional political economic and cultural landscapes. According to Alecu de Flers and Regelsberger (2005, 320), the great variety of mechanisms of interregional cooperation does not agree with the expected action of the isomorphism principle.

According to Bicchi's (2006, 295-298) assertion, the institutional settings and management regimes of the EU, in particular its Mediterranean Policy (EMP), are very similar to the international one with regard to its multilateral institutional framework, the emphasis on "economic matters and with the social flavor" and the "eurocentric" transfer of the EMP, also point to the similarity of the Barcelona process to the OSCE.

In principle, it is advisable to consider the EU neighborhood policy in terms of minimizing any manifestation of the risks of aggravation of crises, such as current ones such as territorial proximity of neighbors, economic asymmetries, social or political, such as direct non-

compliance with EU conditions. However, the general differences of the third countries in accordance with the conditions inherent in the EU, in general, do not benefit regional development, but it also forces the EU to use bilateral formats of cooperation more often. Accordingly, bilateral cooperation frameworks do not contribute to the development of a full-fledged multilateral approach in the regional policy of the EU and third countries; on the latter, this is reflected in the fact that they lose the opportunity to directly implement the principles of sustainability and, accordingly, inclusion in trans-regional cooperation networks for the implementation of institutional practices and innovative solutions in economy. If the use of EU mechanisms and tools based on the experience of regional integration within the EU in external regions, thereby encouraging so-called regionalism by external management tools, has led to effective models of regional cooperation. At the same time, it is necessary to take into account the scale and design of these models and the mechanisms of their servicing from the EU, which differ directly in proportion to the region to the region. It is this fact that compels the EU to use the full range of available and flexible instruments, both bilateral and multilateral, at the regional level.

Regionalism as a leitmotif of Europeanization is actualized in these dimensions and structural levels, where it is directed. Regarding the countries of the candidates, the regional association of providers, depending on the model used, such as the historical experience of Western Balkans integration with active participation of Austria according to the operationalization model widely used because of the effectiveness of the approach of progressive development. The model of smart specialization, rather indicates of approaches regionalism, and also rather a trans-regionalism, at least at the stage of pre-training, and provide innovation in a particular target area.

The established approach of the European policy towards candidate countries, associates and non-candidates, as a promotion of a new regionalism, is substantially transformed in the measurement of the solution of specific tasks, determined in specific terms or in the whole region or sector priority, in more particular aspects. In such defragmented formats, such as requiring coordination at various levels of this process, regulatory, operational and institutional bases. Such examples today are in full the projects related to the protection of critical infrastructure. In any case, the priority task is determined by the very specifics of

regionalism the structural and functional line of regionalism. This refraction of the line with the approach's participation and implementation to the local regional space, both geographically and in the sectoral dimension, raises the question of the correspondence of the given regionalization vector as a strategic goal, determine to more local tasks, as a result of radically changing or deterministic approaches and models of member countries' providers.

An important distinctive feature is the Europeanization space, which is already institutionalized as the Eastern Partnership. The main argument is that variation in relations with the EU is determined by the domestic structures of the EaP countries, while the EU, because of specific interdependencies, has been accommodating of the partner's whims. Where it has been possible, the EU has followed its own integration logic: when immediate political cooperation is not possible, economic integration is advanced first, which, because of the spillover phenomenon, at some point in time will create a momentum for closer political association. It will be also demonstrated that from the perspective of the EaP countries, the concepts of European integration and Europeanisation have to be separated. Europeanisation is a lasting process of political, economic and social transformation, whose trigger is either deliberate (European integration) or unintentional (market and social pressures). Besides, as already noted, the Europeanisation process can produce both positive and negative results in terms of development and cooperation potential with the EU. Finally, and somewhat paradoxically, the EaP countries, which have not established formal cooperation with the EU, have also been able to Europeanise to a considerable extent. This suggests that, alongside the formalised process of European integration, there are other channels of transformation at work.

One of the central problems articulated in the theoretical space of Europeanization, and in the field of practical implementation of the norms and instruments of the EU regional development strategies and its member states, is not a defragmented external regional space. The countries of the Eastern Partnership have adopted a variety of domestic models of development, political systems and economic agendas. The role of stakeholders in the modernisation agenda varies. A reluctant or reserved leadership, skeptical society, weak civil society, as well as corruption and economic underdevelopment have complicated the formulation and implementation of preferences for Europeanisation in the Eastern

Partnership countries. The domestic challenges and variety of foreign policy aspirations and expectations have led to differences among the countries and mixed results for modernisation efforts. Obviously, the main motivational impulses of regionalization are economic benefits, the providers of which, in turn, are more economic agents and less political or social agents (A. Börzel, 2016).

The EU has made this closer association contingent upon the partners' convergence with the EU's political, human rights, legal and governance standards. The EU's technical and financial assistance, as well as access to the EU's vast internal market, under particularly favourable conditions, are used as the "carrot", fostering the partners' domestic reforms or close political cooperation. The traditional instruments for forging close relations with non-EU countries have been the so-called Association Agreements (AA), which represent an upgrade in contractual relations with the EU after the Partnership and Cooperation Agreements (PCA). The recently introduced bilateral agreements on Deep and Comprehensive Free Trade Areas (DCFTA) with the ENP countries, in the framework of AAs, represent the EU's qualitatively new approach to forging relations with its neighbourhood countries.

Sedelmeier (2007, 201) concludes that coexistence of conditionality and socialization in the ENP to "undermine their respective potential". As a condition, it is difficult to implement in such areas as democratic institutions or human rights, but it is quite commensurate in the technological areas. And here it should be noted that this indicates a potential risk of asymmetry in transient processes, initially disrupting the balance between sectors, this has the potential to increase risks in the future.

The degree of inclusiveness of the EU policy within the framework of the institutional matrix in the formats of bilateral or multilateral relations depends on the permissible degree of involvement of regional actors, comparing the Western Balkans and the formats proposed by Austria will largely differ from the functional point of view of the South Caucasus region, This leads to an approach of the very concept and strategy of regionalism, convertible into trans-regionalism by means of shifting functionality from regional systems in transit, i.e. specific interconnect zones characterized by a larger subject, or sectoral specification, for example, such an area is the education system as a transit corridor of innovation.

Such an approach, remote involvement, allows without formal regional involvement through the transfer of external management standards than in essence standards such as education, exchange programs for students and young professionals, entrepreneurship for small and medium-sized businesses, government management programs, entrepreneurs, etc. The concept of knowledge-based development is essentially an instrumental approach through so-called learning frameworks.

Sustainable development with a main target of field social impact is dictated by a technological paradigm built on the development of human capital and direction of the impact of knowledge-based development through social and economic innovation on social and economic disparities. Innovative transit, as the foundation of regional transformations, reveals the process of Europeanization in transit fieldwork and trans-regionalism acquires the transit dimension of Europeanization in the quality of a free market, directed at building a model of the education society. The research and innovation (or research and development in another interpretation) of a kind variation derivation is essentially the instrumentation of this platform.

Knowledge development in this structural dimension (HEIs and SMEs often directly associated with institutional development) are influenced by social values related to the need for technological development and education. Thus, the impact on society is provided through the generation and transfer of knowledge within the networks formed not only by HEI, academia, but also by NGOs and through government support. Nevertheless, the emerging need to compromise deficiency caused by different needs, usually resources, for all actors, they differ from technological to administrative, can be a source of targeted conflicts. In view of this, objective objective is the establishment of targets for structural elements (organizations), and the accompanying development of measures and the evaluation of results as successive factors of recursiveness.

The need for a specialized management in a learning network built on a triangular matrix that includes such structural elements such as the social structure, the private sector, the NGO, HEIs, suggests the structural changes at the pre-form of communication between regional counterparts. Normatively is introduced into the technological sphere through norms of

dialogue, norms of education, preservation and growth of productive forces, human capital, and government standards.

1.2 Complexity primer for sustainable development and structural regional transformation

The essential difference between sustainability and sustainable development has been described above, and mainly it consists in the theoretical and empirical measurements of these two trends. It should be clearly understood that sustainability, being a paradigm of global development, has less empirical dimensions than regional sustainable development, and does not mean persistently. There are many examples involving fisheries, managed forests and wildlife, and other forms of management of ecological resources that have shown that attempts to “freeze” the variables of the system in attempts to obtain “optimal performance” often lead to loss of resilience of the system and even its collapse (Holling 1973, 1986).

Regional development, appearing as a multidimensional process, and thus causing the complexity of the structural interrelationships, social, political, economic and cross-dimensional elements as a characteristic effect of globalization, raises the problem of implementation models. Models of implementation most often in various branches of the science of the EU, regionalization, management and others are formulated "how to act." Models for the implementation of sustainability in regional conditions should take into account the structural and functional features of the existing systems of interaction of actors, both internal and external. But it does not mean that all measures of regional planning should be labelled now as sustainable. In fact, it is presently a trend to use the term 'sustainable' for all plans and programmes that demonstrate progress and modernity. But in most cases, only some elements of sustainability have been integrated, like the establishment of a roundtable as an advisory board, or the integration of some ecological aspects. A change in mind is not yet in sight. Therefore, sustainable regional development needs a tool to assess policies and projects in terms of sustainability, and to support regional actors in formulating appropriate goals.

The difference in approaches to sectoral technology empowerment, both bilaterally and multilaterally, despite the large scope of processes, does not necessarily have a vertical vector and implies a deep effect. Communalities provided, as previously described by the concept of the spillover effect, can have a different measurement (in terms of long-term positive or negative impact), depending on the assessment of target fields of implementation or the reinforcement of reforms. In this case, we are talking about an evaluation system with the condition and correlation between target sectors.

A clear and complex example is the regionalization trend that has common grounds for security. The trend of securitization in this way becomes determinative in approaches to decisions concerning the management of transformations in the regions, including all areas of society, with securitization having led to approaches to normative construction, institutional and social. However, it should be recognized that from the field of visibility and the emphasis of efforts and mobilization, both external and internal resources, key critical fields have been left that are the root problem for overcoming the same securitization. At the same time, it would be erroneous to assert or take as a basis one of the models or approaches that are actualized within the framework of the same stability, or, in particular, the economic sphere, as a transform meta-form, the technocratization of the supply process will always be a key obstacle. In view of this, the optimal approach can be the one involving the evaluation stage of the pre-form, and the progressive implementation of e.g. innovative models, be it management or innovation in one of the sectors, and applying levels of involvement that implies a triangular system involving participation not in implementation, but first in identifying the priority of threats, challenges, critical areas, and on the basis of this development of approaches with the assessment of the resource base.

Following the need to ensure the full implementation of the principles of sustainable development, it is necessary to adopt a systematic approach, which builds the interconnection of all spheres covered in the transition process to more sustainable economic models. Taking into account the condition of causal interrelation of variables, as a consequence is a feature of the system approach, which consists in unpredictability of results, if we do not take into account potential crisis areas that can become a source of destabilization under certain conditions (Holling 1973, 1986; Gunderson, Holling and Light 1995; IGBP 2001).

Sustainability focuses on environmental development and societal impact, thereby introducing a transformative effect to the EU's external regional policy, in terms of specifying the transformative impulses of the program complex of regional development. This can have the effect of systemic influence, because basic elements of both environmental protection and the social sphere are integrative and can be the basic determinants or provocateurs of transformations in other related industries. However, the question is just in the toolbox as a methodological, aimed at the area of operation and management of the process, and the operability; that is, creating a model of inter-institutional communication and interaction, as well as using specific resources. Copying an integral model on the basis of prioritizing of one or another (ecology and social) branch, carries a latent risk of system failures in the process of implementing transformation elements, norms, technologies. It is this basis that is the model of external management, the operationalization of the process of regional transformations, which is built primarily on the basis of mechanisms for assessing the dynamics of sectoral transformations, increasing the level of intersectoral communications, increasing the potential of institutions for representation of interests and involvement in the transformation of interest groups from the private sector, civil society representative, HEIs representative, which is a condition for increasing the potential and usefulness of integrating the region into the interconnectivity framework and learning framework. On the one hand, the functions of providers can be performed by international organizations, in accordance with the program objectives (education, technology, civil dialogue, democratic institutions, etc.) to their profile; on the other hand, the state provider itself can perform this function with greater targeted efficiency in one or another region member of the EU, such as Austria or the Western Balkan region, through the use of tools such as smart specialisation.

Compensatory action, if necessary using a systemic approach, can be the integration of the variability of prospects (Brooks 1992). The empirical experience of the EU proves the objective conditionality of this approach in the compulsory necessity in different regional conditions to use the whole range of formats for promoting Europeanization. Due to the fact that traditional market indicators, or institutional reporting such as is the case with direct financial management, i.e. financial assistance to the development of a sector in regional economies, can not scale up an objective picture of changes, it is supplemented by indicators

of sustainability, which in turn forces a systematic approach. To date, quite generalized sustainability indicators are often used, which just converts regional sustainable development to global sustainability, in particular industry impact indicators on ecosystems, air emissions, the proportion of renewable sources in energy systems, etc .; integrating long-term economic, social and environmental goals, and preserving biological, cultural and economic diversity (Bergh and Jeroen 1996).

One of the problems that has a negative or positive correlation to systemic regional transformations in one context or another is migration in the economic aspect, it is labor migration. In his study of the process of conceptualizing Europeanisation beyond the EU, Schimmelfennig (2012) notes, in particular, migration as one of the factors of internal integration; in our case it is advisable to consider this dimension of Europeanization in a broader spectrum. Labor migration, both intraregional and prolonged from third countries, into an integrating metropolis, is technologically more developed.

According to a study by Lavenex and Ucarer (2004, 420-421) on the external dimension of Europeanization, in particular migration management, there are four EU external governance regimes, differing in how far the deliberate EU action or the internal interests of third countries initiate adaptation. There are categories such as "Unilateral policy emulation" and "Negative externalities", in the first case, the EU partners adopt rules and principles to improve the internal situation, in the second case, it is rather seen as a result of inefficient use of resources or incorrect evaluation of the adaptation strategy, which entails only costs.

Europeanization process beyond EU member space is unfolded by situationally applied tool configurations, which, as a whole, constitute the mechanism of this process. Including such common spaces as normative or institutional, due to dependence on more private spheres like migration or border conflicts, at different levels, they face variability in the tools and forms of regulation, again, due to the heterogeneity of the region. The region has a structural dimension that is losing its matrix or systemic effect. This is indicated by the very fact that differences in the mechanisms of Europeanization are determined by the level of its structural continuity and, accordingly, these programs form the framework for the operationalization of this process.

March and Olsen defined this dichotomy of the development of the process in the difference between institutional logic itself, which in their expression can have two variations: "logic of consequences" or the "logic of appropriateness" (March and Olsen 1989, 22) which determines the logic of behavior and the nature of the functional load of both the actors themselves and the region actions, such as reforms in the field of education or economic transformations in the agricultural sector. In addition, there is a question related to sustainability indicators, which in turn has the function of predetermining the process of structuring the levels of innovation implementation.

Sustainability parameters implicitly contain the intended result or goals. The greatest difficulty in developing a model of sustainability, which implies a clear algorithm for the development of the process, is the structural distribution of the actors' functional taking into account their resource capabilities and interests.

Thus, the structural nonlinearity of a transformation- providing process at the regional level, that is, the inability to provide a progressive effect due to the objective lack of a matrix of Europeanization mechanisms for the external regions of the EU raises the question of seeking or rather optimizing external governance models as a single mechanism for ensuring the formation of space for the implementation of norm and standards of transformation programs and instruments for promotion of innovation in transition countries, in which the leading role is assigned to the providers as a EU member states.

The multidimensionality and consistency of sustainability, not only in its theoretical connotation. (Drummond and Marsden 1999). However, this is often a dangerous populist nature, which leads at least to incorrect estimates of critical areas and the selection of the wrong target industries that need external resources in the empirical experience of implementation, provides grounds for the multi-purpose application of its principles, in particular as ligating principles, in such areas as politics or science (Farrell and Hart 1998).

In the context of the theoretical perspective of sustainable development and sustainable regional development, one can note the complementarity of two of the many theoretical concepts organically integrated into the developed discourse and practical application in the field of innovation implementation in transition countries and regions. It is about Neo-Austrian- Temporal theory, which is based on the teleological sequence of conscious and

goal-oriented adaptation; preventing irreversible risks for inter-sectoral interaction; maintaining organization level (negentropy) in an economic system; optimizing dynamic processes of extraction, production, consumption, recycling and waste treatment.

1.3 Theoretical considerations on sustainable regional development

Since the late 1970s, the time of conceptualization and adoption of the principles of sustainability, as the basis for the development of the global economy, it is built on the close relationship between environmental balance and the economy. This is due to the two requirements of the era of reducing the burden on the environment of intensively developing industrial countries and the preservation of natural resources, including the human resource.

This requires a constructive formulation of top-down approaches to development with bottom-up or grass-roots initiatives. This requires simultaneous consideration of local and global dimensions and how they interact. This also requires the expansion of spatial and temporal horizons to meet the needs for quality of generations, as well as intergenerational justice (UNCED 1992; Gallopín 2001; Kates 2001). This concept "is designed to remove the controversy of the debate over the environmental quality of economic growth, which was evident in the 1960s and 1970s, during the surge in the environmental movement" (Davidson 2005, 2).

The actualization of sustainability in the context of regional development is due to two significant factors. Firstly, regional development as a process is largely integrative. It is included in the matrix of implementations from the outside, systematically oriented to a more technologically advanced continuum. Secondly, regional space requires the mobilization of the resource base, not in isolation in the structures. If this is considered a resource of conditions, then at the regional level exist the objective need for development and management of the process development of such basic structural elements of sustainability as human capital and the environment. From the point of view of management, these resources, which are the main points of pressure, are "collection points" by integration fields for resolving intra-regional critical areas or stress points to increase the integrality, as a condition for the effectiveness of the process of regional construction. This dichotomous interdependence between the existing critical areas, and at the same time determining the growth points for applying models of platform-based sustainability, underlies the concept of

regional sustainable development, which is a variational derivative of the concept of sustainable development.

Conceptualization of sustainability is largely related to the evolution of economic models and approaches developed and applied on this basis. Stability as a new paradigm of the operationalization of technological development since the 1970s became the main determinant of the evolution of economic models of developed industrial countries. For example, the classical approach on which the concept of sustainability of capital theory was built, the capital-theory approach (CTA), does not adequately account for all the different elements of sustainable development. Over time, according to experts, it becomes inadequate explanatory, mainly legitimizing the evolution of stability and dynamic economic elements within it. According to Blignaut and De Wit (1999), the CTA, like integrative or dynamic approaches to sustainable development, does not form the basis for developing holistic mechanisms for sustainable regional development policies. In fact, the evolution of stability supplemented by new structural and institutional factors formalized in regional sustainable development, as augmented by measuring the global trend of sustainability, determines both the growth and qualitative transformations of economic concepts. In turn, the concepts of economic growth, conditioned by the factors of regional stability, thus determine the essence of the instruments and formats for managing regional processes, in particular, approaches to external management with regard to transitional regional economies. Approaches to changes and transit of transformations in transitional countries provide a more integrated and dynamic approach to sustainable development. In many respects, this seems to be, as explained in the previous chapter, the determining factor in the change of the angle in defending of fundamental approaches regarding the content of Europeanization as regionalism. The ability to classify and track the trajectory of practical legitimization of sustainable development through a matrix of approaches constituting a complex mechanism defined as Europeanization, at the regional level, is at the intermediate point of interaction of the "top-down" and "bottom-up" approaches.

The conceptualization of sustainable regional development, unlike the sustainability of the economies developed as a paradigm of industrial development in the 21st century, is positioned in post facto categories, and is based on the principles of achieving complex,

effective transformations in the process of transformations in transit economies, only with the use of sustainability instruments. Researchers, economists, environmentalists, engineers and representatives of all sectors of the economy and life are faced with a dilemma: which industry or spheres of reproduction of society are key in the process of implementing a full-scale restructuring on the principles of sustainability? The determinants in forming the conceptual framework for sustainability at regional level are the integrated framework to manage regional and local development in a sustainable way. At the same time, the regional actors in the face of state and private initiatives remain the determining factors in choosing a different model and the corresponding resource tools. In the first case, this is the degree of orientation of the state policy aimed at the development of domestic resources in accordance with the principles of the sustainability strategy, in the second, the maturity condition or the level of preparedness of the social and private platform to provide initiatives upward, in the form of "bottom up", the condition to what, accordingly, is the availability of a convenient institutional basis for intersectoral communication. This is accompanied by the conditions under which the factors contributing to the expression of social initiatives are actualized; this may be the degree of democratic maturity of institutions and the structural formation of cross-sectoral dialogue as a great requirement of a structural transformation of the transition economy. All that is also taken into account as measurements of Europeanization. In many respects, this determines applicability of certain levers for the dynamization of regional transformation processes, in particular due to the choice of priority models for external resource management.

The concept of global sustainability, formulated on a platform of objective environmental requirements and developed in the first direction on top-down initiatives, spread to state programs, for example, reduction of emissions to the atmosphere and, accordingly, the re-equipment of machine production, etc. This was reflected at the regional level in XXI century and has acquired important additional dimensions, in particular political ones, which require greater regional integration for the solution of the above tasks. Cross-border cooperation initiatives are most often built around projects in the field of environmental protection and the development of natural resources, such as the initiatives in the Lake of Constanx or Boden See union. But the problem remains the goal of setting concrete industrial development programs, the economic benefits of a local project or the ability to extract the

consequences of these initiatives to achieve longer-term goals, such as achieving results in other areas. It is a question of the relationship between the priorities of long-term development and short-term benefits.

The main values of the concept of sustainability are determined by the reorientation of economic development models for social impact and socio-economic long-term effect.

Alternative views in general can be formulated as the stability of the human system. This approach is affiliated with the conceptual scheme of the socio-ecological paradigm, which is so common today. The classical view of the economy is emphasized as an appropriate system and assigns the nature of the role of suppliers of natural resources and services and sinks for waste generated by human activities. This is consistent with the notion of "very weak sustainability" (Turner 1993). A weak approach to sustainability implies a combination of industrial capital with natural capital, which gives grounds for talking about the possibility of substitutability of different types of capital implies that the preservation of an aggregate level of natural plus manufactured capital substitutability of different types of capital, which is of decisive importance.

Despite the priority or primacy of the ecological system, the only option for finding the optimal long-term sustainability model is in the binary included socio-ecological structure. The integrating component of this structure is a person or human capital that acquires here two dimensions, economic, as a productive and reasonable transforming force, and purely ecological, as part of the ecosystem (Gallopín, Gutman and Maletta 1989).

The capital-theory approach (CTA) is based on the conviction of the need to maintain the functions of renewable resources, including in terms of capital stock. This approach, identified in the literature as an environmental and economic one, also determines what kinds of capital or resources can be exchanged (Stern 1997; Toman 1994; Daly 1996; Costanza 1991). This aspect clearly points to the potential dynamism of the concept of sustainability, and in particular this is superimposed on the characteristics of the regions in their structural features of resource management. The attractiveness of weak sustainability approach is that it suggests relatively simple rules to ensure sustainability, with relatively simple indicators. This situation has seemingly cleared away the vagueness that has previously attended discussions of sustainability (Stern 1997, 148).

Operability, or the instrumental capacity to promote sustainability standards based on two components of the development of environmental resources and human capital, is to strike a balance between the global level and the implementation of this globalization paradigm through the regional component, as described above. Taking this into account, we can not at present state the existence of a single theoretical complex that legitimizes sustainable regional development it is present in the form of a matrix of technocratic approaches to regionalization and as such, it is built on the basis of economic growth. The problem of theoretical articulation of regional sustainable development and sustainability, theoretical legitimating and structuring of applied approaches, justified in the formats of regional strategies, consists in the absence of a clearly structured theoretical matrix of sustainability. This is largely due to the very problem of integrating models of progressive commutative development, particularly as a knowledge-based society, to establish a communicative matrix ensuring the progressive integration and to identify and prevent risks as the trans-regional learning framework on which providers' approaches are built. Accordingly, the approaches that constitute the eclectic system of management mechanisms and procedures applied to regional development and the rationale for the regional dimension of Europeanization or EU foreign policy mechanisms are correlated.

1.4 Alternative paradigm for sustainable development

In the framework of the alternative paradigm of sustainable development, which is integrative for different theories, in particular, such as the theory of capital, it seems to us as a mechanism for adapting different models aimed at optimizing the transformation processes of socio-economic and socio-ecological systems. However, this motivates the development of an alternative paradigm, or rather, private models of sustainability that have special characteristics. For example, in the regional dimension, which ultimately appears as an example of regional sustainable development, the instrumental base differs depending on regional conditions that determine the mechanisms of intra- regional co-operation. An added condition may also be external convergence with trans-regional mechanisms, the possibility of external integration through the means of development programs.

The direct relationship of economic growth with the material, characteristic of the industrial paradigm, is destroyed due to objective reasons for reducing the resource base. The trend

towards dematerialization of the economy actualizes new dimensions for such basic resources as human capital and its added dimension as knowledge. New mechanisms of capital routing are based on the notion of structures for the transfer and use of useful information. This resulted in an increase in the share of services in GNP, in addition, an increase in resource efficiency and the intensification of the reproduction of the technologies themselves, in other words, technologies accelerate the production of technologies through the efficiency of the transfer and use of innovative information.

One of the generalized approaches to the consideration of paradigmatic variation is proposed by Gilberto Gallopin (2003), in particular introducing a gradation of the operationalization of sustainability. Nevertheless, the proposed model is rather generalized, not taking into account multidimensionality and integrativeness in the multi-conceptual paradigm of regionalism. First, this is standardization. It implies the direct prescription of norms, values, development corridors, target domains, etc., for controlled co-evolution of incompatible with life factor and ecological niche as a sub-systems.

Otherwise, it is based on absolute standards and norms applied to the impact on the environment. At the same time, we can not define clear criteria for co-evolution of the following from the dynamics of the socio-ecological system, which are contained in normative systems. This paradigm offers simplified opportunities for the practical implementation of sustainable development programs, for example, the simplified use and selection of "sustainability indicators", including human capital and environmental change. In accordance with the aggregate rate of these variables, the level of stability and compliance with its principles of certain innovative programs is correlated. Arbitrary definition of norms of co-evolution, according to this paradigm, carries the potential danger that many structural and functional elements, such as interactions (for example, processes within networks), consequences of application of certain norms, non-linearity of processes subject to "manual control" , may not be taken into account (Schellnhuber 1998, 22). Thus, some management strategies, even if they comply with all standards and norms in the short term, can lead to irreversible consequences in the long-term range of strategy implementation.

A different nature of the risk associated with implementing the optimization paradigm lies in its associated management options. It requires a very precise goal-setting, the coordination of

the interests of the parties and players, a rigidly structured process of interaction in the implementation of the strategy, and in the event of the slightest disruption at an average distance, this leads to a systemic crisis. From an optimistic point of view, sustainable development presupposes the possibility of co-evolution under any conditions of the development of the process. This relies on such principles of sustainability as management, which implies the inclusion of the maximum spectrum of actors in the process and, consequently, the possibility of controlling the process at all stages. This requires a fairly perfect knowledge and a consistent process of expression of will, spreading over many generations. A number of European economic models demonstrate a successful example of these approaches, such as Austria or Germany, where the basis for consistent development is small and medium-sized business, the main principle of development of which is the adherence of generations.

Also, one of the distinguishing features of this paradigm, in which it correlates with the establishment of a maximum sustainable development process instead of quantitative short-term growth, is the orientation toward preventing systemic failures that usually threaten the crisis for entire industries and a chain reaction for the economy (Gallopín 1997). "Equity" in this context is defined as the balance of environmental conditions for the development of subsequent generations in quantitative (ie, temporary) and qualitative (conditions for the development and conservation of resources) contexts. The execution of this task requires maximum analysis of possible trajectories emanating from the current state, which in turn makes it almost impossible taking into account the mobility of the system and the role of variables in the process. Thus, the strategic approach is to exclude risks by balancing current needs and demand for future development. In this sense, the most successful example is demonstrated by the Nordic countries in their energy planning strategy.

One of the fundamental moments is that the stabilization paradigm introduces a procedural distinction between "sustainable development" and "sustainability". The stabilization paradigm is focused on the co-evolution state or evolution paths, and also systematically seeks to balance management options in accordance with the internal dynamics of the socio-ecological system and the existing set of steering tools.

Correlation with the private approaches of the countries of regionalization providers in the aspects of innovation development in transition regions (for example, Austria and their theoretical basis) is a functional integration of these approaches with regional sustainable development. Perhaps this has significant institutional, structural and functional dimensions in terms of the long-term depth of the effect. Concerning the integrativeness of the private approaches of the provider countries, we are talking about the general principles of sustainability and its regional dimension, often in the management of regional sustainability. Thus, locality is not only a spatial factor, but also takes into account trans-regional integration, the inclusion of regional sub-systems in a wider space of institutional, technological and economical factors. This correlation of approaches with the depth of the global effect of regional development becomes important.

Measuring the progress of sustainable development is built on the tools of combining quantitative and qualitative indicators. Such institutionalized tools include can be through International Monetary Fund (IMF) and the World Bank and by natural resource accounting (NRA) realized (United Nations 1993). Among other things, there is a progressive scale of assessment that differs from the main objective of the NRA to statistically correlate the monetary valuation of the use and changes in natural resource stocks, real savings and national wealth that are estimated as the country's residual accumulative wealth after depletion of natural resources (Pearce and Atkinson 1993). The source of such approaches, genuine economy, are neoclassical growth theories. Indicators such as income streams, stock valuations make up information through which various forms of capital are analyzed (World Bank 1997, 2). Such an assessment of the welfare of the state is a response to the interpretation that sustainable development concentrates and expands opportunities for future generations (World Bank 1997, 19, Serageldin and Steer 1995, 30). This means a shift from dynamic approaches to estimating the economy, in such indicators as GDP, to the measurement of capital stocks.

The interrelation of the structural components of sustainability, ecology, economy, socio-cultural system, etc., gives grounds for an integrative approach, but they are not the final condition of stability providing it. According to the interpretation of strong stability, unlike the weak, each category of capital, regardless of the system link, must have internal stability.

This physical concept of environmental sustainability allows the functioning of ecosystems within the organizational parameters of systems (Common and Perrings, 1992). This factor of the independence of the elements of the system is the basic condition for the applied mechanisms of innovation implementation in the regions with a transition economy, such integrative mechanisms as Smart Specialisation, Learning Framework as a basis for the instrument for Knowledge based society concept.

The approach of sustainable development based on the capital-theory approach is conceptualized in the golden rule of neoclassical growth theories (Solow 1992). It does not imply an initial capital stock, and mainly the strategy of renewing primary sources of capital, in turn is based on unilateral consumption of natural resources without diversification towards promising accumulation (Common and Perrings 1992).

The complexity and dynamism of a system of sustainable development, conditioned by quantitative and procedural or functional factors, implies the openness of this system for internal and external interaction of subsystems, ecological and economic, with mandatory inclusion of regulatory and institutional factors. In this regard, the sustainability criteria are of the nature of "mobility" or "dependence" on or in the dynamics of the medium-term transformation, this primarily concerns the countries with economies in transition and the external management strategies associated with them.

According to Altvater (1994), production-oriented aspects of material reproduction have spatial and temporal determinants. Altvater (1994, 80) describes economic activity in two dimensions-like the transformation of matter and energy, and how the accumulation of surplus is expressed in monetary units. However, on the contrary, the environment is not determined by irreducible dimensions in time and space. The slow rate of environmental change and spatial defragmentation are factors that come into conflict with the spatiotemporal parameters of the economy (Ring 1997, Lange 1999).

It should be noted that some economic theories are related to an integrated dynamic approach of sustainable development as a neoclassical CTA. The so-called institutional economists focus on deeper structural and institutional, value and regulatory, and procedural changes (Bergstrom 1993, 7-9). Evolutionary economists, in turn, accept the dynamic reality of

historical time in a continuum of interdependence (Faber and Proops 1990; Norgaard 1985, Gowdy 1994).

Integral and dynamic approaches to sustainable development in fact, despite their internal integrative potential to classical theories, correlated processes of regional development, do not take into account the need for correlation to the progressiveness of development through sectoral transformation, having in mind a correct assessment of the initial growth points for innovation (promotion) and the achievement of a long-term growth through a complex interaction and development of related problem areas (spheres of life) of the region.

It should also be noted that Gallopin's particular alternative stability paradigms, which are based on private regional development models, such as smart specialization, which has correlations with the optimization paradigm, or elements of a more general nature, mechanisms of development of this or that sphere. However, the indicated approach in several variants of alternatives, in the conditions of region defragmentation, embodied in more particular approaches, in our opinion can be classified only as an instrument of decisions in a separate direction or dimensions of regional development, for example, the equitization may have an external practical correlation with such a region as external resources management or a good governance.

Operationalisation of EU instrument and strategies on External regions

1.5 Relevance of Good Governance approach for transition processing

In this chapter we are talking about the systemic conditions of the operationalization of the mechanisms of Europeanization of external regions, the integration of tools into the contextual framework or the matrix of Europeanization of more particular cases for transition economies.

In general, the operationalization of the EU policies in external regions can be conditionally considered in two dimensions: they are complex development programs that are slightly different in coverage range targeting, such as the Eastern Partnership or more specialized but no less complex, both structurally and geographically, such as the Horizon 2020 or the Central European Initiative, and if it is possible to classify the programs of "pinpoint impact", initiatives and strategies conducted in the regions of correlated countries members and the EU as a whole. The most important for the analysis and evaluation of the depth of the effect, the consequences, is the structural and functional aspects of the differences between these two dimensions. It is worth noting that, as noted in this study, it is advisable to severely separate the terms of determination and, accordingly, the logic of structuring the EU mechanisms for regional development, and the instruments used by member countries in carrying out individual strategies. Obviously, in terms of preparation and effecting, the private strategies of the member countries that are the providers of the overall strategy differ from the point of view of preparing and effecting the effect, and this has led to a general difference in the norms and rules of transformation that are translated from the EU. In this sense, we consider it appropriate to also raise the question of the appropriateness of this or that program, more specifically about its propensity to minimize the reverse negative effect. That is why "private" initiatives (mechanisms as proposed models and tools of regional development by member countries, are more operable with the aim of forecasting the implementation effect, and obtaining a positive long-term effect, due to the achievement of the main goal and the individual EU member states, and the uppermost purpose of expanding the space of cooperation, building an integrated model in the transition countries, external regions.

However, the EU has made this closer association contingent upon the partners' convergence with EU's political, human rights, legal and governance standards. The EU's technical and financial assistance, as well as access to the EU's vast internal market, under particularly favourable conditions, are used as the "carrot", fostering the partners' domestic reforms or close political cooperation. At the same time, private initiatives are more operative, in fact, the instruments of national strategies are the matrix of the interconnective framework for transition countries of external regions.

The traditional instruments for forging close relations with non- EU countries have been the so-called Association Agreements (AA), which represent an upgrade in contractual relations with the EU after the Partnership and Co-operation Agreements (PCA). The recently introduced bilateral agreements on Deep and Comprehensive Free Trade Areas (DCFTA) with the ENP countries, in the framework of AAs, represent the EU's qualitatively new approach to forging relations with its neighbourhood countries.

The DCFTAs foresee a comprehensive programme of legal and institutional modernisation in selected areas, and, if implemented correctly, should lead to more intense trade relations with the EU, and a harmonised business environment in the EaP countries and eventually even to compliance with the economic criterion for EU membership, that demands the existence of a functioning market economy able to cope with competitive pressure and market forces within the EU. Certainly, legal adaptations in combination with competition dynamics resulting from the removal of trade barriers, would trigger deep structural changes affecting not only the economic, but also the political and societal fabric of the countries in question.

However, as has already been partly said in this study, it is not a given that all transformations lead to improvements, in particular in a situation of geopolitical rivalry. Thus far, only three of the six EaP countries have agreed to comprehensive engagement and have signed the AAs and DCFTAs with the EU: Ukraine, Moldova and Georgia. Armenia and Azerbaijan were invited to sign the agreements, but during the process of negotiations turned their backs on the EU: Armenia joined the Eurasian Economic Union (EEU), a counterpart to the EU, but under Russia's design, while Azerbaijan preferred to stay detached. In the case of Belarus, the EU has blocked any initiatives on deepening contractual relations since 1997, because of enduring political repressions and breaches of fundamental rights in Belarus.

Operability of transferring innovation process based on the good governance approach. Good governance approach is a basic element of the strategy of external expansion, promotion of reforms and innovation, in each individual direction it is determined by the scope of the standards being implemented or by the reform area, be they human rights or civil institutions, or technocratic areas such as energy. Thus, good governance, subject to its structural fragmentarity of application, is paradigmatic, being the determining universal mode for all spheres of ongoing transformations. Good Governance in its fundamental function of the operability of the provider mechanism can be correlated with stability in the regional dimension, where the narrative of sustainable development becomes increasingly important, unlike the global understanding of sustainability as such; in this aspect, the operability of transformation processes and mechanisms for ensuring the long-term effect i.e. functioning, which is the prerogative of good governance.

The main argument is that the variation in relations with the EU is determined by the regional domestic structures or in particularly EaP countries', while the EU, because of specific interdependencies, has been accommodating of the partners' whims. Where it has been possible, the EU has followed its own integration logic: when immediate political cooperation is not possible, economic integration is advanced first, which, because of the spill-over phenomenon, at some point in time will create a momentum for closer political association. It will be also demonstrated that from the perspective of the EaP countries, the concepts of European integration and Europeanisation have to be separated. Europeanisation is a lasting process of political, economic and social transformations, whose trigger is either deliberate (European integration) or unintentional (market and social pressures).

Over the years, European integration has significantly expanded both vertically and horizontally. It has captured many new policy areas and extended to new geographical locations. Looking from the perspective of global governance, the EU Member States have put themselves at the vanguard of cross-border legal approximation and joint policy development. In this respect, the EU Member States symbolise a post-modern form of nation states. The process of internal integration has created "externalities" and "interdependence" with the outer regions, requiring the EU's external engagement (Lavenex and Schimmelfenning 2015, 792). For example, the development of a common external

commercial policy of the EU is a direct consequence of the fusion of Member States' national markets into a single market. Likewise, the introduction of high social, environmental and consumer protection standards in the EU has necessitated their "transfer" abroad.

No doubt, this external engagement has a strong hegemonic predisposition, as it largely exists "in the attempt to transfer the EU's rules and policies to third countries and international organisations." However, the reach of external governance depends on the extent of existing interdependence and the willingness of partner countries to adopt the "EU templates". In fact, the EU has been rather accommodating in the development of external relations – the EU has developed a wide assortment of external regimes to choose from, ranging from the traditional trade relations to promotion of democracy and cooperation in various policy areas. A specific regime is applied to potential Member States of the EU – in this process the candidate is turned into a perfect member, as defined by the so-called Copenhagen criteria of EU membership, and, therefore, the enlargement of the EU is considered the most potent instrument of guided transformations of a third country. However, due to existing constraints, for the time being, the enlargement option is not available to EaP countries. The concept of external governance and its derivative good governance is basically considered and used as a form of integration into the European system of rules, which, in expression Lavenex "remain below the threshold of membership."

Lavenex and Schimmelfenning (2009) distinguish between three basic institutional forms of EU's external governance: hierarchy, networks, and markets. The hierarchical mode corresponds to a formalised, vertical or asymmetric style of relationship, based on non-negotiable and legally binding rules. The "Community method" and other forms of supranational decision-making are associated with this mode of governance. The network management regime assumes equality of partners, in a formal sense, conflicts of interest are resolved in negotiation formats. Intergovernmental and consensual modes of decision-making correspond to this network mode. The institutions established under the AAs also comply with this network mode of governance. However, it does not preclude power asymmetries. And finally, the third type of external governance, the market mode, is seen as an outcome of competition between formally autonomous actors. Under this mode of

governance, the regulatory adaptation may happen, either through mutual recognition or through competition pressure. As noted by scholars, in some cases, market demand may lead to a voluntary de facto approximation of legislation, this demand stemming from local consumers looking for higher quality products originating in the EU or local producers willing to have access to the EU market (Lavenex and Schimmelfenning 2015, 791).

Furthermore, Lavenex and Schimmelfenning propose three sets of factors, based on which the governance variation and effectiveness between third countries, regions, or even policy areas can be explained. Thus, the first set of factors is related to institutions and the assumption is that the EU's internal structures of policy-making within a given domain determine the mode of its external governance. What is more, the effectiveness of external governance increases with the external legitimacy of EU's institutions. The power-based explanation represents another set of factors explaining variations in the EU's external governance and points to external structures of power as determinants. In this framework, the degree of third countries' dependence on the EU and vice versa, as well as the EU's power vis-à-vis other "governance providers" like Russia and the US, are important. There is a functional and structural difference between high and low asymmetric interdependence, both of which in one way or another lead to a hierarchical mode of governance. In the case of high interdependence, only market structures have a positive effect, and, conversely, low interdependence, encourages networking governance.

The third set of explanatory factors is related to the domestic structure of third countries. The argument is that the mode of external governance follows the mode of a third-country's domestic governance and that the effectiveness of external governance is a function to a degree of domestic resonance of EU rules, the EU compatibility of domestic institutions and the number of "adversely affected veto players."

The EaP countries who have signed the Association Agreements (AAs) and the DCFTAs with the EU – Ukraine, Moldova and Georgia – have clearly accepted the hierarchical style of relations with the EU. These countries have undertaken to take over a part of the EU acquis in the area of internal market, in exchange for additional trade benefits, and have also agreed that the EU may suspend specific trade benefits in case they fail to respect human rights or fundamental freedoms. The spoiled relations of Belarus represent another case.

Political repressions and the autocratic governance style of Lukashenka are extremely unpopular in the EU; however, the geopolitical tensions in Ukraine and Minsk's mediatory position lately have forced the EU to shift its mode of relations with Belarus from hierarchical to networking co-operation. In the case of Azerbaijan, high mutual interdependence between the EU and the country can be observed: it is a receiver of sizable EU investments, it exports to the EU strategic resources, such as oil and gas, and it is the only EaP country which runs a current account surplus with the EU. Azerbaijan, nevertheless, declined the EU's offer to sign a DCFTA under the pretext of not wishing to alienate Russia. At the same time, Azerbaijan has also refused Russia's invitation to join the EEU. As a result, in EU's relations with Azerbaijan, a combination of both network and market style modes of governance may be observed. In Armenia, the power based factors have stirred the country's attitude towards the EU: it succumbed to Russia's pressure, distanced itself from the EU and is working towards greater engagement with Russia and the EEU. The EU's recent offer to work towards a modified DCFTA, without contradicting Armenia's obligations towards the EEU, clearly spells an accommodating mood in the EU's relations with Armenia. The case of Armenia is de jure in another system of economic integration coordinates and accordingly, which determines the model of long-term development, innovative transformation, points to the multidimensionality of the EU's external approach and the process of Europeanization itself, defragmenting it depending on the application of rules and instruments (Austers 2016).

The EU has applied more or less uniform treatment towards all EaP countries (at least nominally) and the other major "governance provider," Russia, has also exerted equally strong pressure on all of them. This leads to the conclusion that the variation in direction and nature of relations with the EU in the case of the Eastern Partners is caused essentially by the domestic structures. However, further analysis is required in order to determine how specific domestic institutional constellations determine the direction of relations with the EU. It is essential to turn to other theories which enlighten about the social mechanisms through which external pressures transform into behavioural adaptations and, with that, into specific policy choices. Such issues are better captured by the theories of Europeanisation.

1.6 Bilateral vs unilateral approach for sustainable development

Bilateral cooperation refers to cooperation activities in a developing country supported directly by one developed country, such as the case of the Portuguese aid to East Timor. The bilateral cooperation is connected to foreign policy of a country that uses cooperation to perpetuate its external influence in the recipient country.

Multilateral cooperation requires that cooperation activities be developed using an intermediate, for example the Swedish financial contribution sent to the European Union or to the United Nations. This way such international organizations will have the essential resources to help the developing countries. This type of cooperation is less influenced by the donor countries' foreign policy, because it's the international organizations that decide how and where to use their funds, despite the fact that the countries are the main contributors to these organizations.

In the multilateral cooperation, international organizations are working as intermediates, between donors and recipient countries. Among them the UN and its agencies, the European Union, and the different world banks for development stand out. These organizations are using funds from donor countries to help developing countries through various means it can be a direct aid to the national budget or through ICD projects, or even loans with low interest rates.

The official development assistance (ODA) recipients are developing countries, countries that for several factors (political, natural, economic, etc) cannot develop on their own and provide welfare to their population. For this reason, they need external aid to improve their infrastructure, as well as to improve the knowledge and the qualification levels of their populations, providing improvements in technical skills and productive capacities, thus improving the prosperity of their populations.

The donor countries of ODA were seen as developed countries, however, the current international situation, with economic crisis affecting a large part of developed countries, as well as the rise of countries with emerging economies, has changed this old paradigm.

The BRICS (Brazil, Russia, India, China and South Africa) or the MIKTA (Mexico, Indonesia, South Korea, Turkey and Australia) are now also ODA donors. However, they are

still seen as developing countries, but their current financial situation and their economic growth brought the possibility for them to participate in the international cooperation for development (ICD) as donors. In the BRICS case they were able to create the New Development Bank which is now helping the development of the least developed countries (LDC). Taking their cooperation to a new level, they now do not act only as bilateral actors, but also on a multilateral level, making them an important actor in the ICD.

The bilateral cooperation was characterized by a North-South cooperation, where the North refers to the developed countries (Australia and New Zealand included, despite the fact that they are from South), and where the South refers to the developing countries. With the appearance of these groups of emerging countries, the cooperation moved to a South-South cooperation, where the emerging countries support ICD projects in developing countries. This new cooperation brought some advantages: the countries with emerging economies posture to the developing countries which generates greater equality between stakeholders. The North-South cooperation it still seen by the developing countries as their old relation between colonizer and colonies.

Another advantage, but also a disadvantage depending from the perspective, is that now a bigger quantity of funds is available for the ICD. That is good for recipient countries that can choose the most favorable aid for them but for donor countries it can provoke some discomfort between old and new stakeholders because it creates great influence competition. Another disadvantage, from a western perspective, is that South-South cooperation has no politically required conditions; there may be cooperation between states where the rule of law does not exist.

It is impossible to say what type of cooperation is better, as an analysis it is necessary from case to case in order to realize if bilateral cooperation can be more advantageous or than multilateral cooperation or not. As mentioned before, the new South-South cooperation can have more advantages on a bilateral level, since it presupposes that there is more equality between stakeholders. However, because of this equality, in the South-South cooperation an attempt to influence the recipient it is less visible compared to the North-South cooperation, but this influence will be there as it is part of the foreign policy of each country. The ICD is

one of the most acceptable ways to prosecute the external influence in the developing countries, so cooperation is an important soft power tool of the donor countries.

As previously mentioned, the competition between North-South and South-South stakeholders in a bilateral sphere brings more advantages for the recipient countries, because beyond the multilateral cooperation provided by international organizations, those countries now have three choices for their development aid, which will permit then, for example, to choose the loan with lower interest rates.

For the donor countries, the multilateral cooperation will be more advantageous in the countries where there are a great disputes of external influences. Through this kind of cooperation the donor countries can still help developing countries, whereas if they tried to help through a bilateral cooperation it would be more difficult for their ICD projects to be accepted by local population, for there may be discomfort in relation to the donor country.

With multilateral cooperation, the countries are assigning the cooperation policy to the international organizations, making the multilateral cooperation less tied to the political self-interest of donor countries. Most of the time, international organizations, or even NGO's in the private sector due to their specializations, are better prepared to respond to the developing countries' needs, resulting in their funds being used more efficiently, also because there are organizations to keep control of the spending, turning the multilateral cooperation more transparent. Another advantage for multilateral cooperation is that it is up to the organizations to decide where to invest the funds, so they do not depend on political decisions from national governments, making it possible to have a long stand project, such as the Millennium Development Goals replaced in 2016 by the Sustainable Development Goals.

In Portugal, for example, bilateral cooperation with the PALOPs (Portuguese-speaking African countries) and East Timor will be always an essential part of its foreign policy, only by using a bilateral cooperation can Portugal promote what still unites these countries, where the Portuguese languages is prominent.

As we live in a globalized world it is also important to have a multilateral cooperation. In the European Union's case, the institution acts as an important multilateral actor in the implementation of ICD projects in countries with which EU has close relations. Many funds,

which are from the European budget (a member state contribution) are used to improve the welfare of neighbor countries, that one day can become a member-state. EU is also helping to create a region with less asymmetry through the European Neighborhood Policy (ENP).

Despite the fact that multicultural cooperation can be seen as more peaceful and, normally creates better relations between stakeholders, the bilateral cooperation is necessary to promote some countries' interests, which maintains the prestige and reputation of the donor country. It is up to each donor country or recipient country to decide what is the best option for them, but since that ICD is a vital part of the soft power of each country it will be difficult not to use it in a bilateral level by the states.

1.7 Converse approach as a optimizing resource of useful transition dynamics

The multidimensionality of the process of Europeanization objectively conditioned by inhomogeneity of regions, oversaturation of the institutional landscape of the region, external and internal players, is the main determinant for the application of mechanisms, both bilateral and multilateral approaches.

Models of external management, and the tools that make up their complex, in particular, external financing development, due to the lack of direct control over the implementation of reforms, are characterized by low efficiency. In another version of external management, involving intra-regional participation and built on a matrix principle with a predictable commutative effect, also presupposes the availability of implementation mechanisms in both bilateral and multilateral formats.

In addition, one of the determining factors of such a multifaceted approach towards measuring the process of Europeanization or more particular aspects of it, such as one of the options for external management of the process providing innovation, is the participation of EU member countries in foreign regional policies, thereby complementing the structural and supra-structural with regard to multilateralism.

At the same time, acting through sub-regional structures that attach the character of supra-nationality to the process of forming or transforming the institutional structures that support the cooperative process does not provide a solution to the emerging problem associated with

duplication of efforts in regional construction. So even less inert actors in relation to the EU structures, such as a member country that is a provider, are often forced to conduct their foreign-regional decisions on various channels, both in bilateral and multilateral formats, which increases the overall burden on the institutional system, multiplies the decision-making algorithm and distribution of administrative resources, which in general reduces the effectiveness of its positive influence and increases the likelihood of slipping reforms. At the same time, from outside we have a rather rich trans-regional network with a multitude of participants and functions, as well as a well-structured and functional relationship with the goal of ensuring the forward movement of development from industry to industry, often with a segmented and non-systemic effect.

Thus, it is advisable to assume a guaranteed universal platform as a conversion approach, providing a bottom a platform providing a guaranteed effect on the upper floors, when the upper stages cannot be realized due to the launched process of transformations from below. These are objective mutual guarantees of the region of the recipient of foreign investments. This is both direct and possible in the format of a network of cooperation, such as, for example, the learning framework, and external actors to the progressive action in future cooperation. This is provided by tools for the smooth implementation of inter-connective frameworks, implying inclusion not only for external actors, as described in the literature on Europeanization, but also for regional players, with an emphasis on the already designated working formats with the goal of comprehensive progressive development in inter-sectoral dialogue and interaction.

Normative, and as a consequence, partly institutional (excluding multilateral forms of cooperation in specific areas) dimensions of the European policy outside the EU is the promotion of democracy. Liberal and democratic normative attitudes and principles are the determining factors in the processes of sectoral transformations, primarily in the formation of regimes for the functioning of economic systems. This left a certain imprint on the research field of Europeanization. Analogy with the advancement of democracy or in other words in building institutions can also be observed in this sphere, in the systematic deficit of the EU impact. Nucheveva and Emerson (2007) show that in 1996-2004, most of them regressed, and not progressed both in terms of normative quality and the principle of supremacy.

Hoffer (2008), comparing the EU regulatory transit in the countries of South-Eastern Europe, Bulgaria, Serbia and Ukraine, concludes that the conditions for adaptation depend on the internal economic feasibility of transferring the EU rules to the "importing countries". In particular, he explains the weakness of the advancement of the EU rules in Ukraine in comparison with the other two countries. According to Adam Stuhlberg and Sandra Lavenex (2007, 137) the political dimension of the energy strategy "is a rare set of rough parity problems between Brussels and ENP partners" with mutual vulnerability and additional interests, since the EU does not have the capacity to negotiate unilaterally and, accordingly, is unable to impose its own energy strategy on ENP countries. The negotiation process, built on the basis of the rewards and bargaining power of the EU, can act as a condition for the successful transit or implementation of the rules. However, the determining factor in the choice of acceptance is the non-acceptance of rules, the factor is often the prospect, clearly or proportionally determined, of entry or association with the EU. As a set of norms, principles and strategies of external behavior of the EU, the ENP is an obvious integrated mechanism of Europeanization, both in the regions of the candidate countries and in the regions associated with the EU, such as the South Caucasus. In connection with this aspect, it is obvious that international interdependence with the EU and the EU's external impact to expand its *acquis* are stronger than in other regions of the world. Neighborhood Policy show that the ENP is incompatible from the point of view of implementation of *acquis* rules, and also incompatible with the conventional principle. Thus, the external management of the EU, as Lavenex and Wichmann (2009) remark, in the most efficient format, is manifested not through hierarchical transitive structures, but through "network management". This is generally in line with the interests and objectives of the EU in various areas from the protection of human rights and democratic institutions, to the economic sectors of investment.

The conclusions on the ENP were applicable to the Russian district of Kaliningrad, which is also applies from the point of view of Europeanization in its various aspects (Gänzle, Münter and Vinokurov 2008). Kaliningrad has become a "pilot region" for building and expanding interconnection routes between the Russian Federation and the EU. But, the low level of regional autonomy, and the ever-changing political situation in the EU itself on security issues in the Baltic region, do not give grounds for moving this part of Russia to a special status in the ENP format (Meloni 2008).The converse approach within the sectoral

interaction between actors-providers of technology and target recipients of benefits has a very specific functionality to identify and communicate good practice case studies in HEI teaching and research, community relations and institutional management. This concept aims to effectively operationalize the trans-regional process of implementing standards of resilience to regional technological development. This is a specific format for transferring or transmitting technology, the essence of which is that it does not challenge and does not cancel bilateral or multilateral formats, because it is, in fact, carried out in another coordinate system by another measurement of the process of technological development.

Such an approach is aimed at providing such conditions for the application of sustainable development strategy standards at the regional level, such as ensuring the functioning of a structure that ensures effective transfer of technologies and management standards. A significant difference of this structure is its integrability ensuring stability and progressiveness of technology transit, which increases the efficiency of reforms in general. In addition, this approach does not negate the negative effect of multilateralism in terms of optimizing resources, namely, it provides a transformative process not through direct transfer of financing to a single sphere, but through a sustainable matrix of technology deployment through the educational network. This increases the coefficient of usefulness in the development of such components of the system as human capital, effective management technologies aimed at inter-sectoral dialogue and overflow effect.

1.8 External governance of regional domestic resources

The mechanism of external governance is a set of tools to ensure the operationalization of policies outside the EU. External control can generally be differentiated into two dimensions: direct participation, by means of such tools widely used as financial assistance (financing for development), and good governance. The effectiveness of the first, within the context of changes in principles of sustainability (particularly in developing countries and transition economies), has long been questioned, aided by a permanent monitoring of the implementation of regional programs, the EU and other global international organizations, including financial ones. In turn, good governance is a basic approach to regional development and transit instrument, and the control technology implementation process is a mechanism for a controlled external management process, mainly ensuring the task of

deepening the effect of transformations in the region and minimizing the risk of rollback of reforms.

Good governance as a platform for the empowerment of norms and institutional regulation, which in turn determines the qualitative institutional transformations, primarily provokes the use of analysis tools and the choice and creation of inter-connective spheres. The transformation of which will affect the maximum amount of space for implementation and development technologies, and ensuring the progressive growth of the regional economy.

However, as already identified in this study, forms of cooperation directly depend on the methods of the proposed implementation. For regional development, in general, there are two forms of sustainability-the first, a top-down strategy. It is characterized by the form of presentation of the initiative from regional decision-makers, and is aimed at the greatest involvement in the process of the most important actors in this region. Second, is starting from the bottom-up and it is based on the self-organization of actors less associated with the state or major players. This is more dependent on private participants, which characterizes the process of planning as more chaotic and unpredictable. Such an algorithm can be extended to a trans-regional scope where the initiators of the processes can be non-state international organizations, the international community, bootom-up, and the case where the initiative comes from major players, states or large international associations or organizations like the UN or OSCE.

It is this difference that determines the development and application of tools that subsequently initiate the process of intra-regional transformation, and essentially define two ways within the overall process of Europeanization. In the context of the regions under consideration, we are talking about the possibility of integration into the EU research and innovation framework, namely local transformations in the form of improving the industries through the management of the external flow of technologies through trans-regional transmission and implementation formats. In particular, the factor of building the process of forming a qualitatively new institutional and production structure on the principles of stability is taken into account, which means the system of administration as a mechanism for managing smart specialization or learning framework. Targeting tools in this case, as in the first and the second case, is based on the five capital model of economy: natural, human,

social, manufactured and financial. It is this second path that provides an in-depth and sustained effect of the development of the basic components of the regional system as a constituent structural element of the global system within the framework of sustainable development. Namely, a heightened emphasis on human resource development, deep societal impact, socio-ecological preservation of the system and economical sustainable growth.

Methodological approach

1.9 Discursive institutionalism vs. neo- functionalism

The research focuses on the so-called "integrated approach" for deconstructing complex models of cooperation at the sub-regional level and a network of trans-regional relations. Based on this, a more comprehensive assessment of the processes of the formation of a multilateral system of trans-regional cooperation is possible, in particular, to create sub-regional multiple mechanisms, manage the crisis and study the steps taken by the Black Sea region and external actors to improve their sub-regional interdepartmental normative coherence.

The comprehensive approach is a trans-dimensional issue that lies in the cross-conceptual area of Europeanization as an export of EU's subregional building. Therefore the activity crosses with actors such as Austrian providers-institutes activities toward a good governance and capacity efficiency. It should be said that mentioned problems in security field that correlates with regionalization are converged within the Europeanization concept.

The theoretical and methodological basis for examining the strategies of Austria's structural changes in the institutionalization process of the "external regions" 2001 to today offers the best of neo-institutionalism and discursive institutionalism (Schmidt 2008). Historical institutionalism as a subfield of neo-institutionalism is used to explain the relationships between institutions and individual action. One of the main components of the study is the influence of decision-making principles in existing international and regional contexts with a view to correlating the strategies of regional and European actors. Discursive institutionalism has a potential for certain research tasks in the study area, the correlation between domestic political discourse and its explication on the institutional-regional scope of action. Comparative analysis of regions is applied in a special dimension through the process of Europeanization as the main carrier of internal transformations, as well as from the point of view of the correlation of strategies and approaches to the regions of the countries of the providers of this process, in particular Austria. Besides, the interdisciplinary nature of the research and research tasks determinate the need for implementing to methodological gap of research, such as an approach as neofunctionalism (Sandholtz 1998, 2001, 2010).

Research makes use of state texts agreements reached between Austria and regional states in various areas related to both the Europeanisation process beyond inter-regional areas and within trans-regional cooperation, to innovation issues and bilateral relations in this area, state institutions, scientific institutes, research centers and the strategic oil companies analytical materials devoted to energy policy issues. The research also makes further analysis of the volume or degree of cooperation in humanitarian, political and economic areas. The main emphasis will be made on the analysis of cooperation of governmental and non-governmental levels. Therefore, after gaining these data, an analysis of which critical tools are needed for effective cooperation will be made. An assessment of the correlation between sectoral cooperation and domestic political discourse relating to the exact region will also be conducted. This also will enable the ability to evaluate to what degree different areas of the region are dominant for the external actors (Austria), and how this complies with the development level of the region in the context of a comprehensive approach. In addition, there will also be a correlation between internal regional and European discourses on regional policy issues and the definition of "critical instruments" as indicators expressed in the regional context of the relationship between external actors playing a role, including indicators of structural and functional dynamics in a regional context.

Structural – functional method

Locally, the structural and functional method is used to operationalize the intra-regional and trans-regional dynamics of processes of change under external influence, in this case it is promotion of innovation and external governance i.e. domestic resources.

The method of structural and functional analysis includes a functional component defined by the context of Europeanization, as a meta-process of regional transformations, and structural units, such as regional and international institutional forms.

In research applies a combined approach that takes into account quantitative and qualitative indicators.

The quantitative methods, such as secondary data analysis, will help to collect data with the objective of exploring the impact of knowledge-based development measured in qualitative indicators of the impact of innovation in the socio-economic sphere. The study takes into

account a set of measurable quantitative or statistical and qualitative indicators: the amount and form of financing the education sector; scope and ways of disseminating ICTs; the ratio of public and private investment in the research and experimental sphere of innovation; human capital and scientific and technical capabilities; adaptation of innovative initiatives. Methods of qualitative measurement include focus groups with government organizations, universities or HEIs and research centers, business representatives. The study included three classical phases-desk research, field research and data analysis. The main difficulty of the study was the collation of data on the impact of national strategies and policies on the formation of a framework for the implementation of the concept of knowledge-based society. Qualitative metrics for assessing the influence of Triple Helix are complicated by the presence of economic and social imbalances at the regional levels.

Participatory approach

The approach of participatory communication has been used for more than two decades. This method is most effective in the development and modulation of communications. In particular, the application of the participatory communication approach is relevant for analyzing and forecasting the ways of developing complex structured systems. Today these principles are more in line with the bottom-up approach and are related to the activities of NGOs and, to a lesser extent, to the programs of government agencies. The application of this approach in the study is based on the general characteristics of the models in question, particularly the triangular model (Triple and Quadruple Helix models), and the mechanisms that facilitate the implementation of innovations in transitional economies.

The origins of participatory approaches are associated with the critical approach to top-down emerged in the 1970s, and the increasing participation in the process of developing initiatives and their promotion of non-state actors. In addition, the emerging trends in the changing forms and methods of planning and organizing business, the spread of technology, both locally and globally, have led to a reassessment of the importance of communication as a condition, as well as a change in the role of individual actors in the structure of international economic relations.

Experts were faced with the problem of further justification of modernization, which obviously overcame the boundaries that were only in quantitative growth, the scale of

construction, expansion of infrastructure, increased distribution of electricity, and so on. They had also necessary to recall the missing component, increasing the yield, which shifted the technology and productivity forward.

The reassessment of modernization consisted in the deep bases of this process, and it touched on the structural and functional foundations, namely how and by whom it is implemented. At the same time, the goals of modernization have shifted, as already noted, to other dimensions of capital, not replacing it. Approaches to sustainable development based on the primacy of participation have become a reaction to the emerging global structural imbalances in the implementation of the projects of modernization. By and large this is a revision of the structural and procedural foundations of modernization. According to Uphoff (1985), four ways of participating in development projects can be distinguished. At first, participants of the process are encouraged to mobilize for the actualization of projects. In accordance with the functional, a certain resource balance is created. Secondly, the current evaluation and the final results are formed through participation. Thirdly, participants directly involved in the first two stages, are guaranteed to participate in the use of the results. And finally, the most important point is participation in decision-making, through the participation involved, an action program is initiated, conceptualized and edited. As a rule, such schemes will be extended to social projects with the least participation of the state, for example, this is connected with social initiatives in the field of education, rehabilitation centers, etc. In terms of participation, modernization through the complication of the system, constantly expanding the space of participation. The forms of participation described in these four positions are characteristic precisely for the implementation of projects in the field of sustainable development, where participation and responsibility are more reliant on civil society. In turn, the most important form of promoting the initiative as a decision-making is characteristic precisely for civil society. The inclusiveness format expands the opportunities not only for participation to a wide range of actors, but also complements the possibilities for comprehensive control over the development process, at least this allows us to agree on the maximum of positions and interests.

Regional dimension of EU sustainable development strategy

1.10 Regional development strategy

Faced with the problem of global and regional development, the concept of sustainable regional development, interpreted largely exclusively in the context of economic theories, was expanded by socio-ecological and a number of social dimension. Complication of processes in the context of regional development is due to the redemisionalization of actors and actors, which is based on the synergistic principle of using endogenous resources. At the same time, taking into account the global-regional interdependence of processes, trans-regional communications, especially in the field of transmission and joint technology sinking, become of paramount importance.

However, this does not mean that all regional planning measures must meet the standards of sustainability. In fact, there is currently a tendency to use the term "sustainable" for all plans and programs to demonstrate progress and modernity. At the same time, often, transformation strategies, and especially in transition systems, both in general regional and local economic or sectoral, use only elements of sustainability. In particular, this also applies to such a version of external management, as mentioned above, as financial management. Typically, this is an external investment in local projects in the area adjacent to or consistent with the principles of sustainability, for example, environmental protection. Obviously, these measures are not of a complex nature, and have a localized short-term effect. Therefore, sustainable regional development needs an instrument for evaluating policies and projects in terms of sustainability and supporting regional actors in formulating appropriate objectives.

As it was declared in this study, regional development has contextual dimensions and is determined by its processuality in accordance with them. Regional transformations can take place either horizontally or vertically, depending on the target program, where the should act as a recipient, both private and public. Due to the complex conditionality of the multidimensionality resulting from structural and functional asymmetries caused by the use of diverse approaches, Europeanization in different segments, from European programs of transit of norms, to the creation of institutional funds, may have consequences of structural changes in the region and functional for individual areas of life. The most important factor,

from the perspective of the assessment of structural and functional processes of external provision of transformation, is the role of EU member states in the regional agenda. This, in turn, can correlate EU strategies with respect to external regions, in connection with their cooperative image and other target programs with their respective foreign policy strategies. In addition, adaptation in the framework of common EU strategies, or more applied target programs, such as the HORIZON 2020 or the EU Strategy for the Black Sea. Norms and principles of sustainability as the leading factor of regional development in the 21st century is an important factor, in addition, that on it the private state programs and strategies of the countries of members of EU which are as a matter of fact sub-providers of the above-stated categories of EU of strategy are built. Thus, the multidimensionality of the process of external interconnection of providers of regional transformation needs to find channels for convergence of internal development factors with models of external suppliers. This seems to be a common or basic problem, the solution of which is the subject of not targeted investment in the region or measuring the volume of assistance to transitional regions, namely in the field of management of these processes of trans-regional communication and related instruments.

Innovation policy of EU beyond state-member space there based on approaches of promotion and inclusive management, such as a knowledge-based society concept, is a fundamentally new approach to the regional distance participation of the EU in regional development.

As these new regions approach the knowledge-based society and economy, due to the influence of the spread of ICT, integration into the EU or the accession process, determines the need for a regional EU policy and the policy of regional development based on the foundations of a society and a knowledge-based economy is the opportunity to turn classical regional challenges into potential opportunities. In particular, it can be a classic method of spillover, by agreeing common positions in one area, for example, technological cooperation within the region, can contribute to improving the overall climate in the area of free movement of goods and services, as well as human capital. It is in the described context that this research project is contextualized, as in the case of the European Neighborhood as a whole or in more regional regional programs, such as the Black Sea Strategy.

1.11 Innovation and research mechanisms for transition countries

Innovative policy based on the concepts of Research and Development (and Innovation) or Knowledge based society, is aimed primarily at supporting the stages of the transition of economies, and socio-economic systems, and the preparation for sustainable growth. The most common model of external implementation is the imitation of priorities and the copying of tools for more successful transition and modernization projects of developed countries. And it is in this lies the potential danger of failures in the development of the system. One of the most successful applied tools regionally promoted in the process of innovation is a smart specialization concept. The concept of smart specialisation suggests a trajectory for transition countries to avoid the widespread pitfall of poorly defined innovation policies by upgrading and changing their industrial policies to be in line with the ideas embedded in the concept of innovation strategies (RIS3): (1) Build a trusted ‘competence centre’ to provide a comprehensive analysis of your economic fabric and coordinate the process; (2) Begin with one strong economic domain in which engaged stakeholders work together with government bodies to define joint priorities and actions (domain experimentation); (3) Start with one region to experiment with different approaches at the subnational level (territorial experimentation); (4) Sequence your process in a way you can harvest the low-hanging fruits in the short-term (non-R & D measures), focus on the core of your activities with high potential in the medium term, and leave R & D-heavy breakthrough programmes for the longer term.

In turn, it also has a political conditioning, in a positive dimension, and a contextual framework, but it is who is the optimizing mechanism for minimizing the risks of complex regional transformation processes involving connectivity with external actors and the international context of participation in regional governance.

Smart specialisation is a European approach to foster knowledge-intensive development, a central element of the Europe 2020 strategy for smart, sustainable and inclusive growth. It requires national and regional administrations to identify, through a transparent ‘entrepreneurial process of discovery’, the innovative domains that have the most potential for growth and to establish these as clear priorities for public investment. Since 2013, over 200 smart specialisation strategies have been developed, mostly at regional level, across the

EU. The Smart Specialisation Platform was established at the Joint Research Centre, the European Commission's in-house science and knowledge service, with the main objective of advising and supporting regional and national authorities tasked with coordinating the process.

At the same time, the European Commission has identified regional development, competitiveness and smart specialisation as key areas for joint support activities in enlargement and neighbourhood countries. The regulation outlining pre-accession funding clearly mentions smart specialisation as a thematic priority for assistance to enlargement countries (European Parliament and Council of EU, 2014). In a recent Joint Staff Working Document for the Eastern Partnership, the European Commission, together with the European External Action Service and the representatives of the six partner countries, agreed on having at least one partner government commit to starting a full-fledged RIS3 process in 2017 and formally adopting a new innovation strategy by 2020 (European Commission and European External Action Service, 2016).

1.12 Promoting innovation and technologies in transition countries

To be able to consciously launch a comprehensive innovation strategy, governments need to assess the structural and functional state of the system to change. Transition countries are driven to remodel and drastically reform their socioeconomic and political systems at the same time. Governments in such contexts often resort to mimicking the economic priorities and instruments of advanced countries. In turn, this alienates the policies from the economic reality on the ground, resulting in an increasing gap between wrongly defined policy agendas and their implementation.

The model of pre-reform preparation, research and development stage can stay four major aspect a better knowledge of the socioeconomic fabric is an important precondition for identifying key domains on which to focus effort (Rodric and Hausmann 2005). Identifying key domains and defining the policy instruments that can support them are the objectives of this strategic endeavour. This requires the design of an adequate governance structure, build-up of administrative capacities and the coordination with stakeholders. Progressive and iterative efforts are needed to accumulate experience and trigger policy learning. This is why we suggest four complementary options, which taken together build a trajectory for smart

specialisation and economic transformation (Foray 2015). Getting the process itself right is at least as important as the final outcome of the strategy process in four options. Firstly, build a ‘competence centre’ to manage the process of learning and strategy making. This team, freed from political considerations to the extent possible, prepares the full evidence needed for an innovation strategy and its implementation. Professionals from diaspora networks can contribute to this centre. Political support, important to start and manage the process, is obtained through inter-ministerial working groups and high-level R & I councils. Secondly, begin with a pilot on a well-developed economic domain with willing and capable stakeholders to experiment with different approaches for defining the fine-grained sub-areas of prioritised domains and designing ways to mobilise the right stakeholders (domain experimentation). Showing the effects smart specialisation had in the EU can trigger greater interest among stakeholders, who are often eager to engage provided governments provide credible incentives. Thirdly, take the ‘experimental approach’ from smart specialisation and apply it in one capable and interested region that would help set the approach for other ones, enabling a cumulative process over time to overcome the lack of data about the situation on the ground (territorial experimentation). Regional administrations sometimes enjoy greater trust from stakeholders than national ones. And fourthly, take existing activities as a starting point and develop a 3-phase process that sequences and prioritises measures. Start with small-scale activities and projects, while following the broader principles of smart specialisation. Experimental approaches, by definition, can fail. Given the limited public resources in most transition countries, ‘low-hanging fruit’ are a viable way to start. Sunset clauses are useful mechanisms to assess progress of experimental new measures and projects, while limiting costs of failure.

1.13 Open innovation: build of institutional premises

Open innovation is a model of innovative business which uses both internal and external ideas to gain a competitive advantage in the market. Open innovation is defined as the inflow and outflow of knowledge to enhance internal innovation and to open the pathway for external innovations (Dahlander and Gann 2010). The concept of knowledge is not limited to technological knowledge, but it also includes business, market, organizational and economic knowledge which is allowed in the open innovation model. The business model is the key to

deciding whether an organization should implement external and internal knowledge for the development of new business. The open innovation business model allows the flow of innovative ideas from all the dimensions which ensures that the company is moving in the right direction of economic development (Inauen and Schenker-Wicki 2012). In the open innovation model, the external ideas are considered as important as the internal ideas for progress in the market (Kim and Park 2010).

The open innovation business model has several advantages such as capitalizing on new business opportunities, late financial entry of a company improved relationship with the academics, the establishment of SMEs and other innovations (Metwally 2011, Parida et al., 2014). In addition to these benefits, innovating organizations can also have spin-off ventures which are not deemed fit for the business competence. This model of activity also helps the organizations to identify the areas where the organization needs to concentrate and gain more expertise. In the current competitive business environment, the organizations need to identify the novel ways for collaboration and innovation in the business ecosystem in order to develop a sustainable economic environment for opportunities in the future (McPhee and Segers 2013). The open innovation model is not all about smart people with diverse skills working for the organisation. In the open innovation model, organizations use their internal capabilities to gain a desired advantage in the competitive market. This is only possible through strong internal connection and effective collaboration with the external environment. The external environment includes large companies and small companies which sponsor innovation, generate innovation and bring innovation to the open market (West and Bogers 2014).

The huge prospects of the open innovation business model will compel the organizations to reform their business models and strategic objectives in order to gain success (Colwell and Joshi 2013). Recent research is directed on the case studies of major multinational companies. However, the impact of open innovation in SMEs is not explored (Brunswick and Vanhaverbeke 2011). Therefore, the research needs to be more focused on open innovation in SMEs for sustainable economic development. All the business activities and innovation processes regulate sustainable business development. Therefore, the countries in Eastern Europe and the neighbouring region they have adopted the open innovation models

in its organizations to transform the newly formed industry into a sustainable economic hub with the aim of long-term social and economic growth. This will help in the diffusion of innovative ideas and scientific knowledge forming an industrial zone and economic hub in the economically weak region of Europe.

According to the evolutionary economic theory, innovation has played a critical role in the economic development, particularly to catch up with the global requirement. The neoclassical theory also emphasizes the role of innovation for sustainability in economic development. The common framework of both evolutionary economic theory and neoclassical theory shows the models and tools necessary to solve complex issues of innovations in business. The table below shows the comparison of two theories which tell about innovation in enterprises. Nelson and Winter (1982) – relations and actions of firms (and industry) within the wider (institutional) context (Nelson and Winter 1982) Rodrik (2007) – influence of the institutional context on the firm level processes (Rodrik 2008)

How do firms and entrepreneurs behave and innovate? There are two distinct concepts which determine the behavior of a firm - organizational routines and searches. Every business organization has a pre-defined action plan which helps to determine the future activities of the firm. The experience of a firm is very crucial in predicting the future, including changing business environment, the risk of survival and other routine activities.

Appraisal represent those activities of an organization that is associated with the assessment of current routines and the variation in the old routines i.e. innovation is one such variation that forms a new combination and provides the best possible combination for the growth of the organization. Firms having a well-defined routine for innovation can significantly benefit from these innovative routines and become a leading business enterprise. This theory does not focus on the entrepreneurial level. However, it emphasizes institutional level analysis and prepares the institutions for innovation and sustainable development.

In this theory, the argument for innovation is based on two economic growth elements: a) adaptation to the advanced technologies; and b) Innovation to develop new technologies.

This analysis builds on the fact that proper support from institutions is necessary to pursue innovation and technological advancement. Without proper support it will exert a negative impact on the business operations.

Therefore, better institutions and institutional support help to achieve the goals of innovation in business enterprises. How does the socio-economic environment relate to entrepreneurship and innovation? The organizational routines and search are affected by the external environment. In addition to these, the behavior of other enterprises in the sector is also necessary to innovate.

Public policies also significantly influence the search and innovation of firms. The firms innovate and evolve according to the conditions of public policies. In this theory, the institutional right principle helps the firms to recognize that a high-quality institution can take several forms without depending on the convergence of institutional forms.

Therefore, it is important to study the impact of the socio-economic environment in growth diagnostic mode. When viewed concerning development and catching up the global competitiveness of innovation, we can see a great overlapping in two theories evolutionary and neoclassical. According to evolutionary theory, economic growth is considered a variation involving different weakness of technologies in the firm. It is viewed as time-consuming to integrate technologies into the organization that are new to the workforce. According to evolutionary theory, the firms are also unable to judge the right technology and adopt a feasible new technique. Therefore, the issues of economic development are different from the issues of general economic growth in developing countries and developed countries. Hence, it is important to consider all the past experiences and searches to adapt to the new technologies.

Similarly, Rodrik (2007) argued that the strategies for economic development must be based on three basic elements: growth diagnostic (Rodrik 2008); policy and institutionalization. According to Rodrik (2007), it is the industrial policies that put up a challenge for the business enterprises of developing countries and reduce their chance of innovation and more sustainable economic development.

1.14 Research and Development concept for regional sustainable development

The leading goal of innovation policy is the preparation of the economy not only to an appropriate level of competitiveness, but also its greater integration in terms of quality standards and management principles. This is the model for such models of cooperation and innovative integration as Research Learning that are successfully applied, for example, by Austria in the Western Balkans region.

To be able to meaningfully start a comprehensive strategy and stakeholder process for this, governments need to first understand where their economies stand and how they arrived at their current economic fabric. Every time this diagnosis is done, new discoveries can emerge about the evolution of economic sectors, their linkages, and subnational or regional variety. This exercise has also shown that economic potential does not only lie in high-tech manufacturing or established research and development (R & D); rather a broader definition is more appropriate, given the overall importance of services, and of combining new activities with existing traditional sectors to upgrade to higher added value. Smart specialisation is a strategy process to identify and prioritise new domains based on the current economic fabric with a strong involvement of stakeholder groups.

Academic authors as well as policymakers have used different terminologies to speak of the same objective: making national industries more competitive so that they create employment, wealth and well-being. This was already the objective of post-WWII classical industrial policies that addressed economic sectors. One approach was to build technical centres for the manufacturing firms to enhance their capability to project themselves into the future — what we now label foresight and road mapping — and to improve the ability of firms to absorb new technologies. This holds true especially for new production technologies, e.g. new materials or electronic components. Progressively preparing new products and processes became an activity in itself, encapsulated in the terms of R & D and later innovation. OECD was instrumental in this move, both in pushing for specific policies but also for measuring investments made by countries — with the famous Frascati and later Oslo manuals. OECD documents are also a good mirror of three evolutions: we moved from ‘politique scientifique et technique’ to ‘science and technology policy’, then to ‘science, technology and innovation

policy’, which was synthesised in the 2000s on the idea of ‘innovation policy’ or in recent policy documents phrased as ‘research and innovation policy’ (R & I).

Direct support to individual firm projects has always been an important component of public policies. Today this is often delegated to a professional agency or development bank. Many governments complement direct support with fiscal policies such as research tax credits so that firms take their own risks. As evidence showed that technology absorption by firms was difficult without those firms participating in its creation, collaborative programmes became another important tool, especially for large firms. Centres de ressources technologiques were created to intermediate between knowledge producers and small and medium-sized enterprises (SMEs). The former were more mobilised by national governments and the EU, whereas the latter were mostly developed at a regional level. Since the beginning of R & I policies, an important aspect has been the promise of new industries borne by breakthrough and frontier science. The large programmes in the 1960s and 1970s organised public efforts to create new industries in nuclear energy, civil aeronautics and space. Many scholars analysing these programmes in OECD countries considered that this was no longer an adequate policy and that policies should support the creation of ‘new technology-based’ or ‘start-up’ firms, also called spin-out firms when coming from university. This became widely adopted and supported by a rich portfolio of instruments, ranging from incubators, science parks and technopoles supporting the risk capital industry. The shift started at the beginning of the 1980s and became prevalent in the 1990s. Academic work has shown that only in exceptional cases do such firms become new large enterprises like Apple or Microsoft. They mostly remain small to medium sized or provide new market opportunities for large existing firms that buy them.

The 2000s have witnessed three major evolutions in our understanding of innovation and in corresponding policies that today build the core of R & I policies. Firstly, it was the rediscovery of the importance of framework conditions that help in building a friendly environment for innovation. This covers four main dimensions. The oldest of policy interventions is intellectual property rights originating in the 18th century. Secondly, standards build a second critical dimension not only for safety issues but also as a major tool to shape and harmonise markets. Thirdly, recent work has highlighted the increasing

importance of procurement policies: in 2007, public procurement was estimated at 16 % of the combined EU GDP, a figure that demonstrates the catalytic role it can play in the development of new products (Edler and Georghiou 2007, 958). As procurement is widely distributed, R & I policy becomes thus de facto a multi-level policy whose principles are decided at the national level, while its implementation depends mostly on regional and local authorities. Some analysts consider human capital a fourth critical framework condition, highlighting the contribution of education and training policies to innovation.

Secondly, in the 1990s and early 2000s, governments rather retracted from sectoral policies. In the predominant view of that time, focusing on sectors or ‘sectoral innovation systems’ was considered very difficult to implement given that most economic sectors reach beyond administrative borders, value chains are becoming increasingly international if not global, and innovation is becoming increasingly ‘open’, mobilising actors from multiple countries, domains and organisations. Recent debates on the ‘entrepreneurial state’ indicate a return to sector-based policy development — albeit in a different shape. Sectoral policies now are linked to collective initiatives of various actors — such as those associated at the European level to technology platforms, and they tend to be more narrowly targeted toward transforming sectors. Modern sectoral policies no longer focus mainly on manufacturing industries. They also include knowledge-intensive business services as well as culture — from museums to games, tourism or services more broadly speaking. Thirdly, the third major evolution is largely associated with decentralisation and the recognition of the central role of small and mid-sized firms in job creation in OECD countries. Multiple academic analyses have highlighted the critical importance of proximity and clusters as central levers for competitiveness. This has progressively transformed regions and metropolitan areas into central actors for supporting innovation capabilities.

While framework conditions provide the necessary basis for economic growth and are by and large determined at the national or even global level, smart specialisation approach focuses on the sectoral and territorial or local dimensions. They underscore the need for strategic capabilities to define and coordinate transformational activities by governments, firms, organised interest and research organisations.

1.15 Institutional/organisational implementation (R and D strategy)

Emerging challenges for the economy, such as strengthening and structural expansion of the dynamics of markets, new people's needs, the interrelationship of quantitative growth of technologies with their adaptation and introduction into production and others, have become the main reason for ensuring the high level of technological competitiveness of regional transition economies. This is today the main challenge for potential technology providers in the regions from the EU and developed technological countries.

Thus, the need to ensure the principle of competitiveness of structural changes has become a central task in regional development strategies. The efficiency of resource use, today, can already be increased several times using available technologies.

Nevertheless, this condition is not central to ensuring the implementation of the principles of sustainable regional development. This only involves local implementation, and does not correspond to the principle of system update, taking into account the inclusion of all the structural components of the process. That is why, it is necessary to establish the general dynamics of innovations on a principle not from outside, but within regional systems, under external governance.

A systematic approach to the implementation and adaptation of innovative technologies also carries the risk of destabilizing the system at later stages. This primarily relates to the costs associated with the use of technologies with a high degree of resources with natural environmental and economic risks, there should be a social dialogue on the impact and risks of technology. The need to increase programs focused on sustainable development, in regions with economies in transition, and increasing R & D funding, is dictated rather than by the unilateral expansive aspirations of the EU and other external large players to master regional markets, but the structural expansion of regions' interdependence in the global system of economic ties. The aim of the structural implementation of within realize sustainability strategy for transition countries is increasing the effectiveness of structural interaction and operationalization of the processes of structural transformation of the economy. At the same time, without instructions on increasing the output of the economic system as a whole, but emphasizing the efficiency of sectors and the stability of the structure.

Increasing the effectiveness of structural interaction, using models of research and development or smart specialisation, improving the processes of operationalization of structural transformation of the economy, is the central task of implementing sustainable development strategies.

The experience of advanced technologically advanced countries, such as Austria or Germany, in applying technological innovation in unity with structural and social innovation factors, is currently scaled from local application in individual enterprises to regional strategies. As evidenced by the experience of successful Austrian projects in the Western Balkans region, in the frequency WEB INConet is based on the principles of knowledge based-society concept (Marinkovic, Dall 2014). The structural way of transforming the policy of innovation is to increase the synergies between the research and business sectors. Today it has a concrete expression in the realizable model of University 2.0, when the scientific sector cares not only about the reproduction of ideas, but also about how to realize market solutions to these ideas. The efficiency of the technologies and the high flexibility of the production chain, both inter-sectoral and international, ensuring the viability of the technology in a dynamic market, is provided through the conversion of efforts in the formats of scientific and production clusters. In turn, high technologies determine the shift from dimensional and resource-intensive production to the field of cooperation of small and medium businesses or enterprises (SMEs).

High degree of qualification and knowledge of employees in the described conditions and models oriented to high technologies are the key factor. Empirical examples of trans-regional cooperation in the field of promotion innovation and technologies point to the fact that an unprepared educational base leads to serious costs. A simple example are the trainees of the location of high-tech industries in countries with a low technical educational level of personnel. The policy of innovation solves in this way the tasks in the field of “capacity building”. Innovative orientation based on systemic and intersectoral approaches, with maximum involvement in the process of development and implementation of economic start-ups, has direct interaction with other areas of society, namely, political life. The requirement of sustainable development in the participation of the non-governmental and private sectors is the basis for building a constructive dialogue with the government, not only on the basis of

requirements. In addition, it facilitates the reassessment of the principles of administration of processes, production processes, reducing communication chains within sectors, and reducing the risks of falling out of the cycle of individual production elements. Thus, the appeal "motivation instead of punishment" is an insurance against possible frictional losses in the intersectoral field of interactions between society, the state and the economy. The use of high-tech production models objectively requires strengthening the incentives for communication between authorities and enterprises, speeding up procedures and making them less bureaucratic. There is a need to strike a balance between the effective production and use of policy instruments and a market economy. Sustainable development, despite the external and medium-term difficulties of the transition period, stimulate the development of such models of intersectoral interaction, which so far can be most effectively implemented at regional levels with increased potential to integration.

Inside-sectoral or cross-sectoral interdependence as the basic principle of organizing the functioning of the framework for implementing models of sustainable development, involves voluntary consent to fulfill obligations to adhere to the principles adopted jointly in relation to a particular project. Thus, punishment or sanctions are privately replaced by motivation, and this contributes to increasing the economic efficiency of interaction between different sectors of the economy and administrative structures as national for local projects and in an international format.

1.16 Austrian model of regional sustainable development as a complexity for the advancement of modernization

In the case of Austria, The Austrian case of the application of the standards of sustainable development and adaptation of standards contains a number of determining factors that are subsequently reflected in the formation of regional development strategies., In particular, this is reflected in the experience in providing technology development for the countries of the Western Balkans.

The Austrian strategy of sustainable development was "codified" in the so-called "Green Book" in 2001. The concept of sustainable development in Austria was conceptualized in the Green Book "A Sustainable Future for Austria", as a result of the work of the

interdepartmental and intersectoral commissions with the participation of representatives of government bodies and experts from the private and research sectors. As a next step, the "Austrian Strategy for a Sustainable Development" was developed, based on the principles of the Green Book. The main distinguishing feature of this document was a more precise definition of quantitative and qualitative indicators of the effectiveness of the process of implementing national projects in the field of sustainable development. The principle of openness and transparency enabled effective use of informal resources in the process of developing strategic objectives and medium-term priorities. Thus, by means of a large-scale parallel feedback process, any groups of people and institutions not represented in the working group had the opportunity to submit their proposals to the Austrian strategy of sustainable development. The Austrian strategy of sustainable development is based on three sections - "Challenge and Basis" illustrating the main trends that contradict the sustainability and incorporating thirteen principles that take into account the situation inside Austria; The "Fields of Action" section includes four basic tasks, such as "quality of life", "business location", "living spaces" and "International responsibility"; and the third "Implementation" that includes the basic principles of institutional interaction. In addition, reference is made to maintaining sound public finances as a basis for sustainable development.

The most important innovative feature of the Austrian Sustainable Development Strategy, which distinguishes it from the most common approaches to strategic planning, has been the inclusion of initiatives, projects and programs already implemented, as the most successful examples. In addition, the strategy included "Innovative Examples" on the basis of which further development is planned. As key goals, such points as the importance of inter-ministerial and inter-institutional cooperation are defined, which are not limited to the state level of coordination and decision-making; in its own way, as a consequence, it ensures accountability of opinions of all social and professional groups, investment security, and ensuring the balance between participants in economic processes; the implementation tools are clearly described; it is developed taking into account existing initiatives, as a guarantee of their continuation and logical completion; it takes into account the principles of European compatibility and the international conjuncture; it is designed as a learning strategy that can react to altered framework conditions in a flexible and dynamic way, thus representing the beginning of a continuous process of implementation and further development; it clearly

defines responsibilities and sets impulses for institutional innovations in order to control and design this process; it is intentionally limited to a general steering tool, thus creating free scope for coordinated decentralised implementation and opening up opportunities for participation (The Austrian Strategy for Sustainable Development 2002, 6)

The integrated or interconnective principle of sustainable development laid down in the Austrian strategy of sustainable development is oriented to all spheres of life and is summed up in twelve guiding principles. The principle of their combination and interaction is also constructed in accordance with the condition of mutual penetration. The essence of these principles is maintaining diversity, aiming for integrative solutions, creating scope for innovations, living the model of fairness and solidarity, enhancing knowledge and desire, assuring quality and health, supporting regionality and subsidiarity, enhancing local identity, supporting participation and networking, setting clear signals, achieving efficiency and effectiveness through cost fairness, guarantees further development and parliament learning (The Austrian Strategy for Sustainable Development 2002, 11).

The alignment of the sustainable development strategy with the principles of a pan-European way of supporting and developing the foundations of sustainability is consistent with Austria's desire, as an active European member of the EU regional agenda, to play an active role as a modernization provider for transition regions. This is confirmed by Austria's desire to actively support the EU's regional policy at the Pan-European level, and outside the member countries. An important aspect of the Austrian sustainability strategy is the correlation of local goals and initiatives with a Pan-European vision of sustainable development, both within the EU and beyond. Austria, based on its own vision of global and regional development in the field of sustainability, seeks to actively formulate the position of the EU as a driving force in global problems. Austria actively retransmits the data of successful projects in the field of transport, energy and agriculture, both on domestic level, and those that were implemented in external regions with the active participation of Austria. One of the main principles supported by Austria in the context of cooperation for sustainable development is the fight against poverty, social injustice, all that the developing countries are facing today. The observance of the principles of equality, fairness, and inclusiveness in the context under discussion have a political and normative dimension, since compliance with

the rules for counteracting these troubles entails structural changes in management systems, changes in the systems of redistribution of resources, greater attention to human capital, and so on. The problem of a crisis or a shortage of human capital, determined by various factors, including global factors, such as migration, is characteristic today for the countries of technologically advanced countries and countries in transition. This, in turn, complicates the problem of implementing socio-ecological sustainable forms. The interdependence of the global and regional levels, therefore, has a negative expression in the one-sided orientation towards the production of raw materials, as well as the current scheme of the division of labor in the world market, not allowing global economic growth to redistribute developmental effects to poverty reduction or combating inequality, which in turn, leaves these problems to regional systems for self-liquidation.

The practical tasks Austria is trying to solve in the context of its participation in the maintenance of the principles of global sustainability and sustainable regional development are to promote economic diversification in the formats of the private sector, small industry, development and promotion of new export-oriented activities. The global level of activity is the redistribution of efforts to bridge the gap between the rich North and the South, by promoting the principles of open technology markets. In this aspect, the most important role is played by the models of technological cooperation, both direct, through investing in the technology of the South and third countries, and through indirect promotion of such formats as Vocational Education Trainings (VET). The principle of mutual coordination, supported by Austria at the local and European level, is aimed at developing multilateral equilibrium channels of economic, trade and technological communication. Reducing social and economic disparities through sectoral modernization

1.17 Reducing social and economic disparities through sectoral modernization

The transition to sustainable development is expected, taking into account possible environmental, social and economic problems, only on the basis of integrated solutions. In turn, their identification and general recognition has the necessary conditions for social and economic compatibility, as well as a structured responsibility when the state is the guarantor of strategy support, and the participating actors (social groups, private enterprises, funds and

organizations, etc.) are guarantors of the implementation of established norms and rules in the process of implementing a particular strategy or upgrade model. Due to transparency and long-term planning in the field of sustainable development, target groups have the opportunity to adapt to structural changes and use new opportunities in committing crimes. Social transfer and support measures should compensate for a specific burden for certain industries or social groups. The set high goals in the field of sustainable development by the Austrian government, the adopted standards and formats of action require new forms of cooperation between actors responsible for decision-making and actors involved in the implementation of specific sectoral changes. All established for the implementation of the network and dialogue forums such as the roundtable "Sustainable Austria", the national expert conference "Sustainable Development Coordinators", created by the Environmental Advisers of the Federal Provinces, the dialogue forum "Eco-social Market", "Austrian Business Council for Sustainable Development " , "Eco-efficiency Round Table" interact on the principle in an inclusive format that is integrated. The local level of participation is organized in such a way that regional bodies provide clear information for the development and harmonization of sub-targets coordinated and quantifiable, where possible, timelines and relevant tools, as well as measures to achieve the targets for implementation. Regarding independent sectors, community and local sustainable needs, the principle of political integration and the sequence of actions aimed at ensuring a decentralized implementation of the strategy is applied. The Austrian strategy laid the foundation for the long-term development of innovations in the field of sustainable development, in particular, focusing on such areas as, local initiatives on sustainable development principles toward a regional level, action programs, territorial employments pacts etc. Consistency⁶ and forward movement, as well as the involvement of deviations and risks in the implementation of the strategy, is ensured by the alignment of the main objectives and their integration.

Coordination process through cooperation is applied by Austria as a model of commutative translational trans- sectoral development. The various policies should reinforce each other mutually. This requires that horizontal and vertical coordination between the policies be improved, and that interfaces between the federal and provincial levels be established in accordance with the principle of subsidiarity. Following the principles of commitment and promotion of pan-European sustainability goals, Austria, in the framework of the strategy of

sustainable development, pays special attention to the harmonization of local and EU-level actions. This requires stronger networking of ministries, provinces and social partners. Everyone involved can only work together without prejudice through cooperation and communication between the functionally structured areas. Continuous exchange of information on the status of implementation, regular coordination of the next implementation steps and continuous monitoring of implementation should ensure that the activities of all the participants are coordinated. The federal ministries and interest groups will nominate one to two people each as members of the „Committee for a Sustainable Austria“ set up by the federal government. The provinces are invited to delegate four representatives from the Expert Conference of Sustainability Coordinators to this body. Particular attention will be paid to the processes of timely exchange of relevant information and communication channels. Following these conditions, an expert group will be established to support the implementation and consultancy of the Committee. One of the functions of this committee is to promote the members of the group in the environmental and social spheres with the support of NGOs. Regular exchange of information is carried out at the level of responsible structures, such as the Austrian Council for Sustainable Development (ÖRNE) and expert groups represented by members of the scientific and social communities.

1.18 Smart specialisation as a new approach

The Knowledge for Growth expert group wove these lessons from regional development with academic insights on innovation economics and synthesised them in the concept of smart specialisation (Foray 2008; Foray David and Hall 2009). It builds a clear transformational approach for policy intervention by emphasising a vertical and non-neutral logic of intervention. Given that governments simply cannot pay attention to all existing economic sectors, it aims at helping regional economies to discover new domains with a strong potential for growth. The word domain here is used on purpose to differentiate it from a whole sector or technology. One example cited by the authors is taken from Finland, where companies explored the potential of nanotechnology to improve the operational efficiency of the pulp and paper industry. New domains often lie at the juncture of different sectors.

Finding new opportunities and exploring new domains constitutes a discovery process that requires a strong involvement of multiple actors. It is an interactive process as opposed to

traditional planning processes. In a nutshell, this is not a one-off solution but an iterative process that should take place periodically, being based on an assessment of the regional situation and on the results of previous processes. It involves experiments aimed at fostering a structural evolution of the whole regional economy. Smart specialisation has become the official approach of the European Commission to support the innovative capabilities of regions within the cohesion policy.

The starting point is to build a solid understanding of the economic fabric of a country and its regions, in order to identify the nature of the sectors present. This requires a good understanding of inter-sectorial linkages and the entire production cycle to identify opportunities for growth. A territory's capabilities are usually locally concentrated, be it in industrial districts, clusters or innovation networks. An analytical and geographic mapping of the economic, research and innovation potential establishes the informational basis to prioritise domains.

Experience accumulated in the past underlines the importance of mobilising and coordinating the capabilities of R & I organisations and firms to collectively discuss and choose the domains with the highest transformation potential. This involves both top-down coordination — often within established sectors — and bottom-up initiatives driven by territorial stakeholders articulating their expectations. The more firms and research organisations are engaged in prioritising domains, the more likely the chosen economic transformation path will reflect a solid consensus with widely shared goals. In a highly competitive environment, effective prioritisation bringing together established and new domains can ensure the future of existing industries. Reaching this analytical and societal agreement helps to avoid what has happened in the past, namely the mere imitation of good practices from elsewhere. It is worth repeating that vertical prioritisation focuses on detailed activity areas, not sectors or single projects. Focus groups and project development labs, for instance, are formats to organise such processes.

These dynamics require a clear governance structure to be performative. Knowing who does what is crucial both for an effective internal coordination within and between administrations, but also for ensuring that the outside world is aware of what is happening and whom to contact to get involved. In quite a number of cases, regions have delegated this

process to a competence centre — which can even be shared between regions or established at the national level to ensure both critical mass and learning. The strength of such policies relies on their formal adoption at the highest possible political level, in many cases through parliamentary assemblies. Doing so validates the analysis made, the domains selected and their agreed objectives. Thus it provides a strategic agenda that serves as an orientation for where the territory is heading to all domestic R & I actors and the outside world. Given the partly experimental nature of RIS3, these documents must be living documents that have to be revised in regular intervals (Kleibrink, Laredo and Philipp 2017).

Choosing appropriate instruments to successfully meet the defined goals for chosen domains is no trivial task. Strong bias exists towards using established default instruments like R & D grants to individual projects or firms. In some cases this may be justified. Yet, priority domains will materialise through broader policy portfolios, often requiring a mix of instruments. One important aspect highlighted by this figure is the dual balance between horizontal and vertical instruments and even more so between supply and demand-side instruments. Demand-side instruments are said to have high yet untapped potential and public procurement is an often-cited example. The articulation of the choices made is an important dimension that enables stakeholders to grasp the strategy's logic of intervention. It also enables better monitoring and assessment of dynamics and the potential for materialisation of the proposed transformations.

Smart specialisation approaches combine two dimensions—first, the need for long-term engagement by governments in structural economic transformation through innovation, and second, taking place through an iterative process that enables periodic adaptation — and even redefinition. When certain activity areas receive privileged and targeted government support, clear success criteria must be defined as to allow policymakers to assess their performance after the support ends. It is not because we speak of innovation that public engagement should focus on frontier science and breakthrough innovations. Most of the time, the starting point is existing activities with the goal to make them more competitive.

The implementation of smart specialisation is challenging because it integrates different policy areas and responsibilities, across ministries, and from local and regional to national and European levels. Moreover, it requires different innovation actors to work closely

together, including firms, knowledge centres, government and civil society itself — the end-users of innovation and on occasion co-producers of knowledge. Two key aspects have been identified as important success factors: an institutional eco-system that supports innovation, and the ability and capacities of public sector institutions for effective strategic management and organisational development.

1.19 Implications for transition economies

Research and innovation policies in transition economies face additional challenges compared to advanced market economies. By definition, governments in transition countries must organise and sequence a vast number of necessary and difficult socioeconomic reforms, leading to a ‘dilemma of simultaneity’ (Offe 1991). Structural change in these countries has meant drastic changes of the economic fabric’s composition through harsh de-industrialisation, the emergence of a large services sector and associated shifts in employment (Berglof, Foray, Landesmann, Yifu Lin, Nauro Campos, Sanfey, Radosevic and Volchkova 2015, 201). All this had repercussions on sectoral productivity, trade and specialisation patterns and the attempts to link to global value chains. Government behaviour also had to change radically, requiring a completely new relationship between the state and the economy. This governance challenge has often materialised in weak coordination capabilities, low stakeholder trust in governments, little experience with instruments to support innovation and limited professionalisation of R & I managers.

What we observe in transition economies resembles the 1960s, when building ‘social capabilities’ managerial skills, stable and effective government, mobilisation of capital through financial institutions and the creation of trust in society — was seen as vital to achieve the technological catch-up in the developing world (Fagerberg and Srholec 2008). This required introducing new institutional arrangements like development banks. Recent evidence suggests that such capabilities are more difficult to build than expected. Similar challenges were highlighted for European regions in what regional development professionals call ‘regional innovation paradox’ (Oughton, Landabaso and Morgan 2002, 103). Poor regions and countries are those with the strongest need for innovation, yet they have at the same time relatively weak capabilities and institutions to pursue successful innovation policies. In the EU cohesion policy, this paradox is compounded by the

preferential allocation of substantial funding to less developed regions, that must plan and co-finance projects notwithstanding their capacity constraints. Having large amounts of funding does not automatically translate into their strategic and effective use.

The aforementioned challenges are only partly compensated by two important advantages. Many east European transition economies can resort to a well-educated workforce with strong capabilities in ‘science, technology, engineering and mathematics’ like in Serbia and Ukraine, both through classical research organisations and increasingly through universities. Another positive element is the rather rich and diverse firm environment. Given the lack of appropriate data, we do not know enough about the actual situation of this complex and unbalanced economic composition. To reap the benefits from these advantages, a proper mapping of the economic fabric, which has undergone far-reaching changes over the 25 years, is thus required. The mapping results can be used to highlight the added value of innovation in different domains.

Relevance of Trans-regional learning framework for providing of sustainability

1.20 Learning framework for transforming of cognitively space on the regional level

The role of neighboring countries as partners, exporters or importers of any economic, resource or scientific benefits can not be overestimated. The sharp geographic boundary multiplied by the time of transition from one development model to another necessitated the participation of Austria in the transformation processes in the Western Balkans and South-Eastern Europe. After political changes in the late 1980s, Austria became the main technology exporter to the region in the region to ensure a more efficient and dynamic transition process.

In addition to signing bilateral agreements on scientific and technical cooperation with most countries of Central, Eastern and South-Eastern Europe, Austria consistently implemented the concept of including countries of these regions in the EU learning framework. One of the first steps to create a communication network for connecting Eastern European countries to

the pan-European education framework was the creation of ASO offices in the 1990s in Budapest, Brno, Bratislava, Kosice, Ljubljana and Sofia. The purpose of the offices was to promote a bilateral dialogue in the field of science and technology. Since the end of the 2000s (since 2010), the projects implemented under this program have become an institutionalized network and mechanism for implementing multi-purpose and multilateral strategies in the field of innovative partnership. Such projects include: "South-Eastern Europe ERA.Net", "Southeast Europe ERA.Net PLUS" and "Western Balkan countries INCO.NET". Austria in this process supports the full integration of these regions into the European Higher Education and Research Area.

Realizing one of the leading priorities of its chairmanship in the EU Council, Austria initiated the process started at the conference in Graz, "European Educational Cooperation for Peace, Stability and Democracy". The main result of this was the launch of the so-called "Graz Process". This process motivated the creation of a large international group of partners and suppliers of Austrian goals and objectives in regional development. Among the partners of this strategy are the European Commission, the Council of Europe, OECD, the World Bank, UNESCO / CEPES, George Soros Foundation and its project - Open Society Institute, European Rectors' Conference, EU and non-EU interested countries and many others, including the corresponding EU member states (Marinkovic and Dall 2014, 12). It should be noted that this impulse by this process has positive continuations today, implementing trans-regional projects in the South Caucasus region, such as DESCNet under the leadership of the University of Graz. The development of the project strategy included the collection of funds and administrative resources. Representatives from all spheres were involved in the work, and integrated with scientific and expert groups to create a more objective overview of the countries in the region, their needs in each of the spheres of life, and also to work out the most optimal goals in accordance with the policy plan for the region. An online presentation was launched, an overview of the educational systems of SEE Educational Co-operations Network. The main identified problems in the field of higher education were related to the integration of the Western Balkan countries into the Bologna system of higher education programs of the EU. The success of the integration process of the Balkan countries in the European learning network thanks to the European Bologna Follow Up Group was completed following the results of two conferences in Prague in 2003 and in Berlin in 2003.

In order to expand regional cooperation in line with the goals of standardization and integration of the national higher education systems of the Western Balkans into the Pan-European Bologna system, the support of the European Commission was received, and as a result, the priorities of such programs as TEMPUS were amended. The large-scale and multi-year project - "Regional University Network in Governance and Management of Higher Education", enabled the countries of the region to take a step towards regional integration in these areas and take a step towards ways to European integration. An active position in these processes, was taken by Austria, in particular in the Working Group on Higher Education, as well as in the UNESCO / CEPES project. In addition, Austria has been one of the big donors of university education in the Balkan, WUS Austria (World University Service) is one of the main implementing agencies at the project level. The Austrian Development Agency (ADA) played an important role as a provider of the process of restructuring and implementing European standards in Kosovo (Marinkovic and Dall 2014). Learning framework as providing guidance of enhancing the role and responsibility for regional actors.

The mutually integrated principle on which innovative development is taking place has been implemented since the 1980s and is viewed as a complex process of collective efforts in the intersectoral format of the reproduction, exchange and use of innovative knowledge in the production process. This implies a vision of innovation as a multi-faceted behaviour that is not limited to the development or adoption of new technologies. The complexity of these processes has first been captured in the discourse on national innovation systems. This approach revealed huge differences between countries in terms of economic structure, R & D capabilities, institutional set-up and innovation performance. It also generated a growing interest in intra-country diversity, and the regional innovation systems framework puts the territorial dimension into the limelight. Four reasons support this view: firstly, every region is different with respect to industrial specialisation patterns and innovation performance. Secondly, knowledge spillovers play a key role in the innovation process and are often concentrated locally. Thirdly, tacit knowledge contributes to developing new domains. Yet it is difficult to unveil knowledge that is often fragmented across individuals and organisations. To be useful, it requires intensive personal contacts and trust to enable exchange and mutual learning, which are facilitated by proximity. And fourthly, in many countries, powers to design or implement R & I policies are devolved to regions and cities (Tödtling and Trippel

2005). The EU is emblematic of this, given its complex multilevel governance and the way the European Commission shares management responsibilities with national and regional authorities for regional development funds.

Building on insights from clusters and industrial districts, EU regions and Member States have been elaborating on territorial innovation strategies, their goals and means in an evolutionary process over the last two decades. In the funding period of 1994-1999, the European Commission implemented innovation support as the first large-scale initiative in this direction within the European Regional Development Fund (ERDF), thus laying the foundation for what we understand today as regional innovation strategies (RIS) (Charles, Nauwelaers, Mouton, and Bradley 2005). Regional Programmes of Innovative Actions were developed in the period 2000-2006. In parallel, pre-accession countries in Eastern Europe benefitted from similar support to develop RIS. In total, more than 120 regions participated in these strategy exercises. These projects aimed at fostering an economic and institutional environment that promotes the creation, dissemination and adoption of knowledge, which in turn was meant to increase the competitiveness and the attractiveness of regional economies. RIS focused their attention on a wider set of inter-relationships among innovation actors. The role of SMEs is particularly important in this process, as they create the vast majority of employment and, at the same time, often do not have access to newly generated knowledge. Therefore, improving the connectivity of SMEs within the RIS should contribute to increased competitiveness.

Since the establishment of the first generation of RIS as a policy field in the 1990s, constant learning and feedback exercises have taken place. As part of the EU cohesion policy, a number of such national and regional initiatives- strategy development exercises (RIS, RITTS, RISI), inter-regional best practice demonstrations (RTT, RISI2) and pilot actions (RIS+, RISI+) (European Commission 2007). Through these initiatives, a higher level of cooperation and transparency was achieved, mainly the necessary link between the exporter and the importer of technologies with direct impact in the production process was established. These policies thus supported a gradual build-up of innovation capacity. In a knowledge-intensive society, this capacity is primarily evidenced by access to three key

components: existence of qualified human capital, access to competence and know-how, and availability of financial resources.

At the same time, these initiatives had several drawbacks. Regional innovation systems were often considered in isolation, lacking a truly international or trans-regional perspective. They were not well aligned with the industrial and economic context of regions. Public involvement in R & D by far exceeded that from the private sector. A narrow and linear vision of innovation prevailed excessively stressing research and its path towards commercialisation. There was a ‘picking winners’ syndrome. The best performing regions and countries were often copied without consideration of the local context. In many cases, external consultants were driving these processes, leaving little ownership to regional stakeholders. Most of the initiatives had an excessive focus on the technological supply and R & D.

One of the main lessons from these past initiatives lies in the importance of initial phases. Evaluations have shown that the identification of relevant societal needs and capabilities at the outset is of utmost importance. They also underscore the significance of implementation paths defining feasible processes to address societal needs and capabilities, as well as mobilising resources accordingly. In other words, the success of RIS was highly contingent on a precise idea of a region’s endowments and on appropriate solutions to tackle identified issues. Evaluations finally showed that this requires continuity and represents an iterative process over a long time period (European Commission 2007). This iterative process is all the more important, since significant changes in or outside the region happen rapidly and may require a re-evaluation of the identified preconditions. Periodic revisions highly depend upon keeping stakeholders in productive interactions, allowing each of them to progressively and voluntarily adapt their behaviour in terms of agendas, objectives and actions. Facilitating this process often requires changes in the vertical and horizontal governance systems. The culture of hierarchical policy making does not only face problems in dealing with the need to accept a division of labour between organisations; it also struggles to ensure a certain level of competition and redundancy to meet the challenges of rapidly changing scenarios.

1.21 EU member states advancement for increasing dynamics of regional modernization

Since 2000, the EU has embarked on the tasks of the Lisbon Treaty, one of the most important parts of which is devoted to science and education, the so-called European Research Area. The overall goal of this action is to fine-tune the close coordination of the national European policy, to organize joint efforts, including mechanisms for general funding in the field of research. As a provider of the European agenda for research and technological development, Austria acts as a consistent partner for the countries of the Western Balkans region. In this context, from 2000 to 2003, such programs as "Shared Vision on EU-Balkan Countries Cooperation in Science and Technology" and "Action Plan on Research and Technological Development" were developed and implemented for candidate countries in the EU and countries of the Western Balkans region (Marinkovic and Dall 2014, 8). Austria was strongly involved in the preparation of the "Action Plan" which became instrumental in integrating the Western Balkans into the European Research Area, promoting their significant research potential. "Shared Vision" initiative became the basic program action in the field of science and technology and thereby laid a stable base for economic stabilization and growth, and also contributed to the full participation of the Balkan countries in the European Research Area. Improvement of research infrastructures and human potential, institution building, promotion of joint activities in the field of RTD for mutual benefit, as well as regional impact, were identified as priority areas for development. A consequence of software development was the launch in 2004 of the project "Southeast European ERA.NET - SEE-ERA. NET". Initiated in 2004, the network project "Southeast European ERA-NET-SEE ERA. NET" focusing on integrating the countries of Southeastern Europe into the learning framework of the EU through well-established on-network bilateral and multilateral communication, and also made possible a deeper analysis and identification of education systems and science in the Western Balkans, which made it possible to more effectively plan the technological transformation of the economies of these countries. In its continuation, the SEE-ERA.NET project was launched in 2009 as "SEE-ERA.NET PLUS". The consortium created within the framework of the project initiated an appeal for transnational joint research, for which a fund of 3 million Euros was created. The project included 23 research projects in the Southeast Europe region. In turn, in 2006 the Austrian Ministry of Science,

Research and Economics initiated the creation of a research platform for the Western Balkans region. The result of joint actions and the "WBC-INCO.NET" project was Work Package 1 entitled "European and Regional Dialogue", which provided organizational support for the regional and two-regional political dialogue of the EU with the countries of the Balkan region. In addition, WBC-INCO.NET has entered into an active dialogue with the Directorate-General of the European Commission. One of the great result of WP 1 was the intensification of information exchange with potentially stakeholders and development partners, in particular UNESCO, OECD, RCC + RCC, Task Force on the Promotion and Development of Human Capital, CEI, WBC-TEMPUS, World Bank and COST (Marinkovic and Dall 2014, 14). Practical results of the work in the framework of regional projects, like WBC-INCO.NET, were consolidated in the European Commission's communication "Europe 2020 Flagship Initiative: Innovation Union". In particular, it notes that EU candidates and potential candidate countries are expected to contribute to the implementation of the Innovation Union. Thus, WBC-INCO.NET was the flagship action program based on the principles of inclusion and corresponded to the smart specialization concept for the trans-regional integration of science and technology spaces through information exchange, as well as best practices in innovation policy through training seminars for innovation transfer participant's technologies. Knowledge-Based Regional Sustainable Development approach the development and rapid dissemination of information and communication technologies (ICTs) has become a determining factor in all areas of social evolution, and primarily in the production, transmission and consolidation of information and knowledge. The most important interpretation of a knowledge-based society is a networked society based on command centers for generating knowledge and information flows (Castells 2001). This non-alternative perspective has become a factor in changing approaches to the EU's regional policy in particular. Despite the ambiguous position of scientists regarding the concept of knowledge based society, nevertheless to date, many development and cooperation programs are based on the principles laid down by this concept. Such a strategic integrated program of the EU as Horizon 2020 is focused on stimulating intellectual growth by concentrating efforts in the field of knowledge, which aims to lay the foundations for the transition of less technologically advanced countries to the principles of a knowledge-based society in terms of research, development and innovation. In this sense, special attention is paid to how research

and innovation can contribute to regional development and reduce social and economic disparities. The concept of a knowledge-based society implies that the science of technology, innovation and research are the driving force of social, political and economic development. According to Nowotny (2001) knowledge based-society does not mean the intensification of the quantitative growth of technological enterprises and is not based only on classical settings of higher education and research institutes, but rather science and technology become part of political discourses and the development of public policy. The empirical justification for this is the fact that science and technology, related knowledge are contextualized, that is, affected by specific social, economic and political contexts. In the end, scientific information, any useful information about technologies, including social technologies, becomes a determinative factor in the transformation of social institutions (Thorlindsson & Vilhjalmsen 2003, 102). The production and application of knowledge, innovative research, information and communication technologies are seen as the driving forces of social, economic and political development in political discourse and policy-making processes (European Union, Horizon 2020). In this context, special attention is paid to the study of how a society and an economy based on knowledge influence regional development. Of course, the focus of this trans-regional discourse is concentrated not only in the exclusively scientific field of social change, but is more practical in terms of technology exports to regions and opportunities for parity cooperation in the technology sectors. Thus, the concept of a knowledge-based economy is based on the possibilities of the commutative routing of knowledge within any sphere, like the economy or the social, as well as the possibilities of its perception and adaptation to practical action (Haggins and Strakova 2012, 965). According to the principle of endogenous development of the regions, the creation of an innovative environment occurs in the course of collective learning and a streamlined flow of knowledge from the outside, or at the local level (Huggins, 2008). This means that regional development and economic growth can be strengthened through bottom-up approaches that focus on strengthening local production systems and social and economic innovations. Following Garofoli's logic (2002), endogenous development is the ability of regions to innovate and create collective intellects that are contextualized in their environment, which determines the importance of creating, disseminating and accumulating knowledge. This paradigm is especially relevant for countries and regions of the economy that need technological infusion,

such as with the countries of Southeastern Europe, and today with the countries of the AA region of the South Caucasus (Haggins and Strakova 2012) Knowledge-based models of endogenous regional development imply several tools for achieving sustainability, such as the creation and support of clusters as structures for the incorporated interaction of actors from different industries, innovation systems and networks, and the use of control systems as Triple- Helix. In this sense, efforts to strengthen the knowledge-based society and economy are closely linked to sustainable regional development. Foundation Knowledge-Based regional society

One of the main bearing pillars of achieving radical innovations is the system capable of systematic development and accumulation of knowledge. Its importance as a location factor in a knowledge-based economy is increasingly approaching approaches to technological development and socio-economic innovations.

Research and innovation are not a focused political tool traditionally associated with EU enlargement. The Union does not have sufficient legal competence in this area. Rather, this area is determined by a pragmatic attitude to the spheres that require the maximum collective participation and additions, and this is the basis of the principle of sustainability. One of optimistic approach of the procedures for harmonizing participation and support in the research area is that the enlargement countries have full access to the EU research program, which allows its researchers and decision makers to work directly with peers from the EU, regardless of the purpose of the expansion and their prospects for the candidate countries . But, other side is that, in any case, there is only a limited opportunity for development and loss of research results for other short-term priorities as research in an industry. Until now, the call for this important economic development policy has not had a negative impact on the achievements of the expansion countries or their ability to integrate into the EU Single Market. The report of the European Bank for Reconstruction and Development, on the transition period, notes that in Central and Eastern Europe, as well as in South-Eastern Europe, the main growth factors are not the increase in the participation of labor or capital, but only the overall factor productivity. Restructuring, which necessarily includes such aspects as innovation and export of technology, is the main growth factor. Concerning the assessments of the resilience to the global crisis, it should be noted that they are primarily

due to the reforms associated with the expansion that were achieved in the early 2000s. In the Western Balkans, the backlog has completely ceased, as sources of external financing have dried up. Growth rates were above 4% in the late 1990s and early 2000s. The new EU-12 member states still average less than 60% of EU-28 GDP per capita, as well. The Western Balkans make up only 35% of the EU level. The crisis has almost stopped convergence since 2009. In Central and Eastern Europe, the catch-up rate can still be recorded on average due to Poland's very high productivity. It should be kept in mind that since the study is not recognized as the driving force of growth, politics suffers from mismanagement and the absence of public commitments and investments. According to the World Bank in the Western Balkans, the national research policy is partial, and is implemented by the main external actors and EU structural funds. In addition, the evaluation of the conducted reforms shows that so far the initiatives undertaken have not led to systematic and sustained changes. It is worth noting a low share of investment in research from GDP.

Vocational Educational and Training (VET) as trans-regional capabilities for incorporate into innovation and research framework

The rapidness of globalization has changed the social, economic and educational system of the whole world. The key towards sustainable economic development lies in the proper training of the youth with the vocational and technical education programs. VET enhances the productivity and competitiveness of a country. It also provides an opportunity to create become self-sustained economic growth. There is a misconception that vocational and technical education is only limited to the non-university education (Cornford, 2005). However, this is not true as the vocational and technical education is a broad concept of education and training which improves technological skills of the youth of a country and makes them a valuable asset to society that contributes to the sustainable social-economic development.

The sustainable economic development through successful integration of VET has shown its importance for both the developed countries and developing countries. It is believed that social-economic development of a country is significantly linked with its education system (De Haas, 2005). Careful analysis of economic development theory and social development theory shows that provision of technical education is essential for social-economic development. Several factors including location, skilled labor, training, sufficient resources, infrastructure and the educational system of the country play a vital role in shaping its social-economic development strategy. All these factors are interrelated. Variation in these variables leads to predictable and unforeseen consequences.

The previous studies have focused on the enhancing the cooperation between regional and international economies for a sustainable economic development. According to Nelson (1993), the sustainable regional development is based on two models; one is a development from above and second is a development from below (Nelson, 1993). In the first model, the regions reform its economic system to match the international demands that screens down to the domestic level. In the second model, the regions reform economic system considering the

domestic and national requirements and moves up to match the international demands. Vocational and technical education programs are also based on development from below model. The plan for sustainable economic development involves different players and it is important to fit vocational and technical education in such a way as to optimize its contribution to the sustainable development. Previous research has also shown quality education supports the economic growth of a country. The positive impact of quality education can be seen from the fact that most of the educated workers live in highly developed countries. One of the surveys reported that 98% of the adult population in developed countries are highly educated; whereas the developing countries have only 19.3% educated adult population (Singh, 2010). This difference in the educated population of developed and developing countries highlights the gap which needs to be filled by education. In another study, a log-linear relationship was formulated, and it was found that an additional year of school improves the earning by 10% in the United States (Polachek, 2003). According to Mincer model, the average level of the school determines the income growth of a country. Therefore, economists and sociologists have focused on improving the education of a region to estimate its economic growth.

The beginning of the 21st century has marked the era of rapid scientific and technological development, which has made vocational and technical education a vital component of social, cultural, and economic development. VET imparts useful skills to the individuals that help them to become an active member of society and contribute to the economic development. VET enhances the technical skills of the people and prepares them for sustainable economic development. Another feature of VET is the democratization of the society which helps in the social development of a country. VET also democratizes the educational system of a country and promotes merit-based practice for all the individuals. The increasing social and economic pressure raises the need of a vocational and technical education. VET is the road to future, and it begins with the successful implementation of VET in the educational system.

The International Labor Organization conducted a conference and emphasized on the role of education and training of youth for the social-economic development of a community which ultimately leads to the sustainable development of a country (Smith, 2015). The resolution

passed at this conference also stressed the importance of Vocational and Technical Education as an essential element of sustainable economic development. It can be only be possible through sustainable and appropriate investment in VET. It is evident from the countries with highly educated workers, and citizens have made sustainable investments in the VET that is paying them back regarding sustainable social and economic development. The students who get benefits from vocational and technical education ultimately benefit from the small and medium enterprises and contribute in this way to the economic development of a country. VET also helps in human development by forming fundamental values of society and spreading equity, justice, and promoting freedom for everyone. All these are the basic elements of the economic and social development of a country and VET is its root trunk.

1.22 Global VET Reforms

In the current global competitive environment, most of the countries are implementing the recognized VET in their education system to avail anticipated benefits. However, quality assurance determines the success of VET in most of the countries. Therefore, constant quality assurance is required for the maintenance of the VET in consonance with the international standards. One of the studies has shown that the current VET policies are uncoupled with the international quality standards in most of the countries, but the formal training in VET is still very attractive and get government support (Kingombe, 2011). The current VET policies follow a supply-side approach which is not productive for sustainable economic development. These conditions have forced several countries and even organizations such as UNESCO to demand reforms in the current VET system. According to Kingombe (2011), such reforms are necessary to cope with the modern challenges to the economy. The higher authorities need to discuss the possible reforms in the current VET system including the modification of training of teachers, management of new VET institutions, and new policies. However, such reforms are country-centric and depend on the technological requirements of the country. The modern world is rapidly evolving, and advancement in technology has increased the demand for high-skilled workforce. Therefore, countries have shaped their strategies to reform VET according to the global demands and their domestic development. These reforms are as well expected to enhance the industrial productivity of a country through the skilled workforce. Therefore, some countries have

developed their VET programs to accommodate their technological and sustainable development needs.

1.23 Concept of VET in Europe

In Europe, the VET model is included in the European social model that is shaped into a structured process, and in 2010 it is defined as the Bruges Communiqué. According to this process, all the European member states have agreed to increase cooperation on TVET programs. The cooperation will focus on increasing the attractiveness and cultivating excellence, quality assurance of VET programs in the member states, allowing flexible training programs, and developing an effective policy for internationalization of VET programs. The Strategic Framework for European Cooperation in Education and Training addresses all the issues of global competition, an aging population, low-skilled workers and efficient strategies for VET program (Tikkanen, 2016). The European TVET model is based on the framework of European cooperation and provides the principal guidelines for increasing the efficiency and quality of education and training centers.

According to EU treaties, the vocational and technical education sub-sectors are designed entirely under the authorization national Member States authorities. This ensures an equal TVET in the Europe which forms a European model of TVET and facilitate the mutual recognition and cooperation. The current model is validated by the Europe 2020 strategy which ensures collaboration and mutual learning between the member states within the international community. Therefore, the resulting European TVET model has general plans and tools to provide effective training to the youth.

1.24 European VET model

The European Union is keen to make the whole region as the world economic hub. In the European Commission meeting, the role of Vocational and Technical Education was affirmed by the member states and a vow was taken to reduce poverty in the developing countries of European region through successful implementation of VET (Mammadova, 2016). Later on, after the severe economic crisis of 2009, the European Commission developed a strategy named “Europe 2020” with an aim to make Europe a sustainable economic region in the world. However, the fulfillment of this strategy requires skilled

workforce which is only possible by reforming the educational system of the region and revolutionizing it on the principles of vocational and technical education.

In the Lisbon Agenda, all the member states of EU agreed upon increased cooperation and harmonization of the VET system across Europe. The EU Member States provided all the support to the developing countries of the region in quality education for the youth to equip them with all the skills and knowledge to become an active member of sustainable economic development of European societies. Therefore, the European Commission has also focused on the employment, social inclusion and protection of skillful youth. The aim of this is to speed up the cycle of economic development and implement national policies which are in line with the objectives of sustainable economic development. The European Commission have also made interventions in which projects are more focused on VET to improve the economic growth of underdeveloped regions. The socio-economic policies of these countries are also formulated according to their needs and requirements.

It is the responsibility of every member state to follow the vocational educational policies formulated by the European Commission with necessary adjustments to accommodate the national needs. The rapid globalization of the production of services and the development of latest innovative products and evolving technologies have forced the member states to harmonize the national education policies according to the international standards with special emphasis on vocational and technical education. Improvements are recommended in the context of social and technological changes. The policy makers also suggest improving financial support for vocational and technical education to provide high-quality education to the youth. Based on all the recommendations to improve the vocational and technical education in the European region, the enhanced cooperation between the schools and enterprises and generalization of VET is the key to involving the youth in the economic growth of a country. Therefore, it is necessary for the countries in the European Union to establish workforce equipped with all the technical skills. In this way, the coordination between the enterprises and educational institutes improves, and they provide workforce which regulates the cycle of economic growth and development.

1.25 Austrian Vocational Education and Training

In the past few years, Austria has practiced growing international concern in its dual system of the internship. This relates to youth unemployment in different countries in the European Union, while figures show scores for all core countries of this system (Austria, Germany, and Switzerland). On the other side, Austrian originalities increasingly seek to transfer the system of apprenticeship to their institutions abroad for their staff requirements. This double twice dynamic has led to an increasing tendency to transfer the Austrian system of apprenticeship to additional countries, including some developing and evolving countries, which have suggestions for the Austrian Development Cooperation (ADC). This gives a reason to believe that this system handover activity is related to political importance.

While activities are intensifying, research is limited. This paper's purpose is to put light on the modern method and its rationales by relating a developing perspective. Its main part focuses on two aspects. First, it follows academic details on worldwide VET methods with special emphasis on leading countries. The important question which arises here is whether the implementation of system related to McGrath (2012b) defines as the universal toolkit of professional education which seems to sit rather carefully with the requirements of developing countries (McGrath, 2012a). The 2nd aspect is deliberations on the socio economic socioeconomic discriminations of the dual system explained by the relevant Germanophone academic conversation (Mayer, 2001, Kremer, 2008, Gonon, 2014, Barabasch and Wolf, 2011) which elevate the question of the dual system's overall transferability.

1.26 Historical Outline of VET Support in International Development

In the first ten years of the international development organization, VET was the major education sector which invested with high education commission. In 1960 to 1970 World Bank give about 40% of its loan in Sub-Saharan Africa to VET (Tikly, 2013). VET was reflected to be a major constituent of workforce estimating to serve the requirements of industrialization (Heyneman, 2005). UNESCO's emphasis was on essential education (Chabbott, 2013), i.e. the core education segment, but this also contained a lot of services development components, as did its following practical literacy policy. Many bilateral

donors, mainly but not exclusively the German-speaking ones, sustained VET as a primary sector.

On the other hand, criticism of VET was increasing. A first and quite powerful publication is Foster's *The Vocational School Fallacy* (1965), which is keen to the disjuncture among the needs perceived in workforce development and the certainties in the work markets. With the rising effect of the human capital theory and in specific the rate of return investigation of education investments started by the World Bank (Psacharopoulos and Patrinos*, 2004), funds in VET was deeply questioned, while funds in primary education were measured to have the maximum rates of return. The World Bank 1991 policy newspaper on VET (Bennell, 1996) was very significant in that regard as it sued public VET as being inefficient.

As needs in global advancement participation moved to essential instruction, VET turned into an inexorably disregarded training sub-segment. The global instruction activity Education for All (EFA) added to the narrowing of instructive participation. Despite the fact that aptitudes were incorporated into the EFA objectives settled upon at the 1990 EFA world gathering in Jomtien, Thailand, and affirmed at the 2000 EFA World Forum in Dakar, this did not prompt an expansion in interest in VET. Truth be told, the EFA aptitudes objectives are reprimanded for being vague to the point that dismissing them was very simple (Palmer, 2014). The UN Millennium Development Goals (MDGs) received in 2000 solidified the tight concentrate on essential tutoring. By and by, VET has nearly vanished from the worldwide improvement motivation over the most recent two decades.

Notwithstanding, some respective benefactors adhered to their attention on VET notwithstanding amid these seasons of contrasting global need setting. These were essentially the German-speaking nations of Germany, Switzerland, and Austria, all of which had bolstered VET from an early point in their advancement collaboration exercises. However, even these benefactors were not resistant to worldwide arrangement weights. Germany, verifiably among the greatest reciprocal benefactors for VET, lessened the quantity of nations where it bolstered VET ventures from more than 70 in the mid-1990s to six nations in 2006 (Barabasch and Wolf, 2011).

In the fallout of the 2008-/2009 financial emergency, rising unemployment rates prompted developing consideration for VET as an apparent intentions to enhance openings for work.

Fast extension of enlistment rates in essential instruction in creating nations had brought about impressively expanded interest for optional tutoring, which training frameworks were not able to meet. Additionally, previous convictions of most elevated rates of return for essential training dissolved. It wound up plainly clear that for different reasons essential instruction was not adequate for individuals to significantly enhance their living conditions. A few research discoveries indicate transformed rates of coming back to interests in training with advanced education offering the highest returns (Langthaler, 2015, Colclough et al., 2010).

The VET renaissance was reflected in a few compelling publications, for example, the 2012 Education for All Global Monitoring Report Youth and Skills. Giving Education to Work (King and Palmer, 2012) and the 2013 World Development Report. However, the recharged enthusiasm for VET lately has not yet converted into much-increased VET home inside improvement collaboration. The 2015 last EFA Report outlines this inconsistency. Troubles of estimation have brought about the EFA aptitudes objective being evaluated as far as interest in lower auxiliary training, which by definition does not cover the large cluster of VET practice. As per this pointer, upgrades are sparse. This thus needs to do with the times of disregard of some other instruction level than essential.

As of late, various particular patterns in the VET area of universal improvement collaboration have risen. The potential commitment of VET to destitution decrease has been progressively examined bringing about a desire to reorient VET towards the casual economy and to incorporate underestimated learner groups, particularly ladies and youth in provincial regions. With the ascent of the manageability plan, VET's part in a green economy has turned into a theme. Optional instruction is getting more consideration from the global improvement group as the key supplier of professional aptitudes in the formal training framework. The Shanghai Consensus, the result record of the Third International VET Congress held in Shanghai in May 2012 (Stewart, 2015), begat the term of transformative VET, calling, in addition to other things, for a broadening of arrangement, an incorporation of prohibited groups of learners and an accentuation on deep-rooted learning.

In the present post-2015 open deliberations, commentators (Palmer, 2014) indicate lacking regard for aptitudes. It is by all accounts dubious whether a VET target will be incorporated

into the last form of the new worldwide improvement plan, the Sustainable Development Goals (SDGs). Extra feedback concerns the danger of conflated abilities ideas, which may prompt theoretical perplexity and the weakened estimation of an aptitudes target (Palmer, 2014) and the vital however troublesome estimation of abilities (Palmer, 2014). For the most part, it shows up from late level headed discussions that however welcome expanded universal acknowledgment of VET may be, the tricky way of VET as far as inhomogeneous VET customs, ideas and examples of arrangement keep on hampering the interpretation of expanded political consideration into practice.

1.27 Current Worldwide Patterns in VET and the academic discourse

As McGrath (2014, 114) calls attention to, while VET remains to some degree negligible to the universal advancement wrangle about, it has obtained a significant critical space on other national and worldwide plans (McGrath, 2012b). The OECD aptitudes system (OECD 2012) and the EU Agenda for participation in VET (Communiqué, 2010) and also its European Alliance for Apprenticeships⁴ are only a couple of cases. Additionally, the Indian government's sense of duty regarding up skill 500 million nationals by 2022 (King, 2012). Henceforth, VET plants in universal improvement ought to be considered in the more extensive setting of worldwide VET advancements.

By and large, it creates the impression that VET frameworks hold until today a great deal more national specificities and are less subject to homogenization forms than general training frameworks. While the Anglo-Saxon VET framework concentrates on the idea of "abilities" and is broadly home situated and minimal formalized, the French VET framework includes a high offer of general instruction and is exceedingly formalized. The German VET custom is surrounded by the idea of 'Beruf,' which brings about a very much organized and formalized framework that is, in any case, emphatically practice-oriented (see the accompanying area). VET frameworks in creating nations are until to date molded by the VET convention of their former colonizing powers.

On the level of administration, changes in institutional settings are presented in many spots. Conventional VET frameworks as a major aspect of the formal instruction framework are progressively dissolved to the banquet of expanded examples of VET arrangement and suppliers. Among the most persuasive apparatuses at this level are national capabilities

structures (NQF). NQFs started from England, however, have spread quickly around the world. These structures are planned to sort out all capabilities offered in a nation as indicated by level. Their motivation is to upgrade learners' employability by making a system of capacities, whereby partners (for the most part businesses) might characterize skills or learning results as the premise of capacities (Allais 2011a, 8).

Additionally, private ventures rise progressively as key players in VET on the level of administration and arrangement. This focuses on the developing significance of the idea of work-based learning. Not new to the German-speaking nations, it, in any case, presents substantial calculated moves in many VET frameworks, which are customarily in light of full-time VET tutoring. It is expected that this will prompt expanded profitability and openings for work. NQFs collaborate with the educational thought of skills. Competency-based preparing (CBT) has turned out to be very famous globally. It gives more accentuation to the learner's capacity to face particular undertakings or abilities than to formalized confirmations (King and Palmer, 2010).

On the scholarly discourse of the above-illustrated patterns, basic methodologies indicate their hypothetical underpinnings much the same as neoclassical financial aspects. When all is said in done, hypothetical VET records are confined to conventional financial matters as opposed to by training sciences (Allais, 2012b, McGrath, 2012a). Be that as it may, likewise heterodox monetary methodologies, for example, hypothetical structuralism strands have little effect on the worldwide VET. Despite what might be expected, the impact of the human capital hypothesis on VET has as of now been specified. Its focal introduce is that instruction and preparing are urgent for individual salary and financial development. McGrath (2012b, 624), drawing on Giddens (1994), portrays the predominant record of VET as 'productivism.' He diagrams as its principle highlight the detachment of paid work from different parts of life and the cementation of monetary advancement as an ultimate objective of society. As an outcome, a ruined perspective of abilities, work and life wins in worldwide VET talk and practice. Swinging to current worldwide VET patterns, McGrath (2012: 625 b) condenses these in what he calls a universal VET toolbox. He distinguishes five central apparatuses:

1. Systemic administration changes expected to make VET more applicable and responsive.

2. Qualifications structures
3. Quality affirmation frameworks
4. New financing instruments flagging a move far from piece subsidizing of open suppliers
5. Managed self-rule for public providers - acquainting new administration structures composed with giving a bigger voice to partners (particularly industry).

McGrath goes ahead to contend that the VET toolbox ought to be seen inside the more large structure of neoliberal changes of open parts and administration connected to industrialist globalization. NQFs as likely the most prominent component of the toolbox was produced with regards to neoliberal open segment changes. Avis (2012) and Allais (2011a) battle that NQFs are focused on modifying the part of the state in VET by supplanting people in general arrangement of VET with open control in the main private VET administrations (Avis, 2012, Allais, 2012a). From one viewpoint, this is accepted to build productivity in VET. Then again, NQFs should break the state imposing business model of VET with a specific end goal to make a business opportunity for VET arrangement.

With regards to the level of effect on the ground, a review appointed by ILO on the impacts of NQFs in chose created and creating nations expresses that the free market activity structures between national VET frameworks and work markets were not enhanced as an outcome of the presentation of NQFs. It likewise found that business cooperation in VET had hardly expanded, neither with regards to the arrangement of learning openings in work environments nor at the level of a meaning of capabilities.

Despite their restricted achievement rates, NQFs keep on proliferating all around. McGrath (2012a) stresses that here a model has been separated from its unique settings (for this situation the Anglo-Scottish ones) and connected to altogether different settings worldwide with little proof of achievement. Despite the fact that this exchange procedure is profoundly intricate, developing financial interests of parasternal associations, for example, accreditation offices and VET specialist organizations must be incorporated into the photo.

Maurer (2014) contends that the German dual model of professional preparing is winding up plainly some portion of the worldwide VET toolbox, despite the fact that in no way at the levels of NQFs (Langthaler, 2015). Another toolbox component is systemic, and field changes focused on making VET more applicable and efficient. These changes regularly result in flexibilization and expansion of VET arrangement trying to draw VET nearer to the necessities of undertakings and work environments. To date, there is little confirmation of progress, not slightest as a result of the hesitance of enterprises to take part in VET as pointed out by the ILO examine on NQFs (Allais, 2010). There is a more critical thought, specifically to developing nations. Allais (2011b) contends that what creating nations need in their VET areas are vast and standardized structures. Expansion forms tend to trigger a further extricating of existing VET structures as opposed to their organization.

Allais (2011a) focuses on the general dangers of characterizing VET abilities given the prompt and here and now needs of ventures. This neither serves the adapting needs of youngsters nor does it merge monetary advancement in the medium and long-haul point of view. In a review on CBT in Australia, Wheelahan (2009) contends that CBT goes about as a component of social power by privileging manager points of view while learners are denied access to the theoretical information that supports professional practice (Wheelahan, 2009). Conversely, long haul capability forms require the mix of theoretical information and down to earth skills, as Allais (2011a) claims. This requires a reinforcing of general instructive parts in VET.

This general feedback of the idea of competency-based VET eludes to a theoretical approach, which is reproachful of the prevailing worldview of neoclassic financial matters, to be specific the new political economy of aptitudes (Lauder et al., 2012, Green, 2013, Brown et al., 2010). Strikingly, a few ideas of this approach have started to impact the global VET banter, as (Valiente, 2014) portrays for the OECD aptitudes methodology. In opposition to the predominant talk on the learning economy, political, financial specialists of aptitudes battle that there is a developing crevice between the expanded accessibility of exceptionally gifted individuals and a shortage of knowledge dependent occupations. They question that continually developing taking in endeavors can shield people from the appreciation of their work. Avis (2012), drawing on Brown et al. (2011), portrays a polarization between learning

specialists encountering computerized (i.e. a procedure of institutionalization und de-skilling because of the use of ICTs) and an exceedingly talented, generously compensated world class.

Taking after Valiente (2014), the OECD abilities methodology presents the worldview of aptitudes usage, along these lines perceiving that whether and how aptitudes can add to development is likewise an issue of the financial structure and not just of the instruction and preparing framework. The OECD's proposal to receive national abilities techniques focuses to the coming up short automatism of business sectors in making exceptionally skilled work, regardless of the possibility that these aptitudes are accessible. Despite the fact that Valiente perceives the hugeness of the OECD's arrangement advancements in their current abilities system, he is incredulous of the OECD's developing goal to impact VET approaches in creating nations. He contends that an excessively obvious use of OECD nation methodologies on the creating scene could prompt a replication of old mix-ups submitted by an extensive variety of advancement performing artists.

Against the foundation of the new improvement plan to be embraced in September 2015, scholarly verbal confrontation on the fate of VET in global advancement heightens. The initial worries regarding incorporation of VET in SDGs have been resolved. The more extensive scholarly exchange recognizes this like a minute to open up and additionally expand likewise on a hypothetical level, which is seen to be customarily frail (McGrath 2012a).

Here, a fascinating record is the developing verbal confrontation on a more human-focused thought of VET contradicted to the "productivist" universality (Tikly, 2013, Powell and McGrath, 2014). This record draws on various methodologies including the human rights point of view, the abilities approach, and, as McGrath (2012b) proposes, Catholic social instructing. Despite the fact that the open deliberation is just beginning, some encouraging angles are rising. Powell and McGrath (2014) for example expand on how the abilities approach could methodologically enhance VET assessments. As opposed to the "productivist" point of view, the capacity approach makes those open doors and abilities unmistakable that are required to guarantee that aptitudes can have any effect in people groups' lives. In this point of view, organization and learners' rights get centrality.

The exchange of the second arrangement of apprenticeship with regards to universal improvement Policy move in instruction has a long custom. This is likewise valid for VET, despite the fact that the external impact may appear to be less solid in these frameworks contrasted with general training (Gonon, 2012, Gonon, 2014). In like manner, research on instructive arrangement exchange has a long-standing convention in near training with considerably expanded enthusiasm for as far back as 20 or 30 years (Steiner-Khamsi and Waldow, 2012).

The scholarly open deliberation Policy move investigates in instruction is a fairly broadened field with complex hypothetical and methodological methodologies that can't be portrayed here⁶. One compelling approach is the neo-institutionalist record of an expected world culture (Powell, 2014), which depends on the idea of joining. Neo-institutionalist approaches, for the most part, conceptualize the extension of the Western model of formal tutoring as a worldwide dissemination handle. Rather than this worldview, another strand of strategy exchange investigates more on the neighborhood setting as a beginning stage for examination (Steiner-Khamsi 2004; Schriewer 2012). These specialists are keener on how nearby settings respond to voyaging strategies and how they change them. Some of this work is additionally connected to the underlying investigation of the effect of globalization on (neighborhood) training arrangements and frameworks (Robertson and Dale, 2008).

The German dialog of arrangement moves in training and appears particularly in VET to be just barely responsive to the Anglo-Sachs school level headed discussion (Wolf, 2011). As of late, nonetheless, consideration has been developing (Gonon, 2014, Wolf, 2011, Barabasch and Wolf, 2011). For example, Wolf and Barabasch utilize the ideas of Philipps and Ochs (2003) as a beginning stage to build up a model of a culture of work as a fundamental worldview for the exchange of the dual model of VET (Phillips and Ochs, 2003). There is a somewhat rich German talk on the hypothetical and theoretical establishments of arrangement move in connection to the dual model (Wolf, 2011, Deißinger, 2001). A lot of it draws on the lessons of experience by (German) advancement participation, which indicates the fairly restricted achievement of exchange endeavors. While Stockmann (2014) appears to save a specific alert in summing up his discoveries on the restricted achievement of exchanging the double framework, other German scholastics are more expressive. (Greinert,

2001), additionally drawing on lessons of experience from German advancement participation, expresses that practically inconceivable hindrances confront the exchange of national VET frameworks and structures to different nations. He cites Georg (1997: 83) to clarify that the particular examples of frameworks of professional capabilities are not, or possibly not by any means, the consequence of cognizant arranging and necessary leadership, however of complex verifiable procedures. Examples and instruments of single VET frameworks are along these lines particular societal and social responses to recorded issues.

Deißinger (2001) claims it is fundamental to recognize 'the sorting out guideline' of each VET framework from its outward appearances, i.e. the particular route in which work is composed and additionally how training and function identify with each other in a given societal setting. Depicting fizzled endeavors to change the English and the French VET frameworks drawing on the German dual model, he indicates the way that the sorting out standard of the German double framework is not, as usually accepted, the duality of learning destinations, i.e. work-based and formal learning in schools. Alternatively, maybe, it is the central component of the German double framework, the idea of 'Beruf,' a term hard to decipher. A Beruf implies something between employment, calling and occupation. It assigns an arrangement of operations for which a scope of particular learning and capacities are required, whose execution envelops confidence and self-governance and which include multidimensional work forms (Paul-Kohlhoff, 1997). In this all-encompassing comprehension of the work procedure and the obliged capabilities to react to it. Beruf is here and there observed rather than the Anglo-Saxon model of practice, procedures divided into barely characterized undertakings, for which a limited arrangement of abilities without earlier capabilities are adequate (Allais, 2012a, Brockmann et al., 2011).

In a societal point of view, a Beruf is a formally perceived social classification which structures the VET framework and the work showcase and is thus organized by them. Beruf is a type of certain classification for the portion of people in the public eye and the business framework (Ribolits, 1998). Berufe is emphatically connected to a particular institutional example in German-speaking nations, i.e. an arrangement of organized haggling between open organizations, businesses' and specialists' delegates and other important intrigue gatherings. This corporatist type of social contract between what are alluded to as social accomplices do

not just case the VET framework and its complex administrative structures. It shapes all parts of open life, work, and political portrayal. It is considered – appropriately or wrongly – the main consideration of financial soundness. It is useful to observe the starting points of Double framework, keeping in mind its end goals. Mayer (2001) condenses the beginning of the German double framework in times of quickened industrialization in the 1870s as a dumbfounding response on the medieval educative role of apprenticeship. She focuses on how that the main impetus for the foundation of the cutting edge German VET framework and the dual model at its center were not the prerequisites of extending industry., It was but rather political reasons, especially over all the social mix of regular youth workers youth against the foundation of rising social popular government.

Atzmüller (2011) examined the German dual arrangement of VET from political and social dominion in a Gramscian sense (Atzmüller, 2011). In his opinion, the dual framework apportions common youth laborers youth in a socially stratified framework by offering a socially perceived personality (a Beruf), qualification to a specific level of compensation, advancement prospects, long-term work prospectsoints of view and social advantages (annuity, medical coverage and so on.). Consequently, the rule of Beruf as the particular state of the workforce in Germanophone nations, and its generation by methods for the double framework, constitutes an academic connection between the workforce and managers which balances out the businesses' political and social authority, going beyond short-term well past their quick advantages. FromIn this point of view, the previously mentioned social contract does not just concede a specific degree of financial and social prosperity to the workforce, but alsoadditionally affects their political accord around social stratification. Consequently, as Ribolits (1998: 9) calls attention to, Beruf additionally fills in as a legitimating instrument of social imbalance.

As far as transferability, it seems conceivable that the recorded and societal entrenchment of the Berufskonzept places restraints on any simple transmission into various social settings. With attention to sexual orientation relations, Mayer (2001), drawing on an investigation of German advancement collaboration in the VET area, portrays some dangerous consequences of exchange exercises because of rare familiarity with its social background. She indicates how examples of sexual orientation isolation in the German VET framework were passed on

being developed collaboration. Truth be told, German improvement participation in the VET area, at least in any event until the turn towards the casual economy, mirrored the focal auxiliary components of the German VET framework. i.e. solid introduction towards the cutting edge financial area, specialized mechanical preparing and apprenticeship preparing, which prohibited ladies as recipients and left sex one-sided work relations unattended for quite a while. She presumes that German, as well as universal advancement collaboration in the VET area, seems, by all accounts, to be founded on suspicions of a social autonomy of VET, which has been demonstrated to be incorrect.

While trying to make hidden social settings substantial and tantamount, Wolf and Barabasch (Wolf 2011; Barabasch/Wolf 2011) adjust the ideas of strategy exchange by Philips and Ochs (2003) to fit the context of the way of life of work. This reacts to the usually shared lesson of experience that setting has not been considered adequately in past exchange exercises. For VET and specifically for the double framework with its primary learning site in organizations, work culture is a central component of setting. Given an understanding comprehension of culture as a dynamic articulation of human's social natureity, the creators' suspicion is that social frameworks of implications and typical requests have altogether affected VET. Then again, VET frameworks have formed collaboration forms in work environments.

As a result of the lessons drawn from these experiences above drawing lessons of experience as well as a strong academic discussion. The limited transferability of the dual model seems to be common sense in German-speaking countries today., which, in their view, this model must be met and re-contextualized in the particular neighborhood setting, keeping in mind the end goal to encourage an efficient exchange. Gonon (2014) portrays seven criteria. These are following:

- i. Readiness of organizations to prepare
- ii. Duality of learning locales (workplace and school)
- iii. Formalization of the double model
- iv. Access to classified logical information

- v. Cooperative model of administration including social accomplices
- vi. Vocational practice as primary learning movement
- vii. Career pertinence

Bliem et al. (2014) characterize seven center measurements of the Austrian dual model which they consider urgent for effective usage in other areas somewhere else. In the less academic field of improvement participation improvement, the core directing standards incorporate close collaboration between the state and the business segment, work-based learning and the engagement of inclusiveded gatherings among others (Mitchell, 2015). Strikingly, these standards coordinate the principle criteria of the worldwide VET toolbox as set out in the past segment. This and the expanded hybridization of instruction frameworks because of globalization procedures (Gonon 2014) encourage the similarity to of the Germanophone VET involvement forwith worldwide VET progression, despite the way that the last is fundamentally formed by the Anglo-Saxon VET convention. The great notoriety of both the business segment in German-speakingtalking nations and their VET frameworks transforms into a similarly preferred standpoint in global VET business. This is likewise because of a specific disillusionment with NQFs because of their restricted adequacy in making extra VET administrations of high caliber. The critical point here is the frequently experienced hesitancey of ventures to take part in VET. The Germanophone VET custom appears to offer answers for this core issue. Be that as it may, germanophone VET mastery is not seen instead of NQFs, yet rather as an approach to reinforce them (for Germany cf. Forgiving 2012: 103). A moderately new example of strengtheningin VET bolster, in any event in German (Clement 2012: 104) and Austrian improvement collaborations, is an unequivocal move to participate with private businesses, encouraging their VET exercises in creating and move nations.

1.28 Austrian Vocational Education (HTL)

The VET programs of Austria shows a 'dualistic structure' as it expands on both Dual apprenticeship preparationing and full-time vocational schools (Graf, 2016, Lassnigg, 2015). In the intragroup examination of the three nations broken down in this paper, Austria has the most grounded traditionconvention of full-time vocational tutoring. There is authentic

advancement of the prominent VET schools, which consolidate 'higher expert training with refined general instruction. The VET schools wound up noticeably regulated into their present shape in the 1960s yet were have established in past centuries earlier hundreds of years (Madders, 2006). The formation production of a solid full-time vocational tutoring area backpedals to the impact of French instructionve standards. Thisese impacts prompted a secure school-based VET area that, combined in the mix with the likewise noteworthy Dual apprenticeship preparation,ing part formed the foundation forgave the ground to the production of the VET universities. Youth's The solid interest of youth bolstered the significant development of VET universities from the 1970s onwards in advancing VET school capabilities and was financed by a Social Democratic (SPÖ) drioven government (Chwalisz and Diamond, 2015).

The VET educational modules take one year longer than that of the general scholastic auxiliary school. In five years, it producesprompts the twofold capability of a VET certificate and a scholarly baccalaureate: the scholastic baccalaureate offers general access to advanced education, while the VET recognition gives one the opportunityprivilege to practice in various larger amount occupational fieldss. In contrast towith auxiliary level vocational pathways in Germany and Switzerland, the pathway offered by the Austrian VET schools appreciates the most elevated scholastic notoriety, given that it gives full scholarly access to colleges, colleges of connected sciences and short-cycle scholastic capability options (Gilchrist, 2013). Around 26% of all understudies in the tenth grade are enlisted in a VET school (Barrow and Lochan, 2011). Six noteworthy types of VET schools sorts are covering the following fields: of building, expressions and specialties; business organization; administration and management ventures; tourism; mold and configuration; and finally also horticulture and ranger service. Following three years of relevant expert experience moves on from most VET Colleges of Engineering, Arts and Crafts and VET Colleges of Agriculture and Forestry, one can apply for the official title of "Engineer" inat the respective fieldcapable service (Lassnigg, 2015). While these building titles are not official scholastic degrees, however, they appreciate a high notoriety in the Austrian work showcase (Lassnigg, 2015). Truth be told, many alumni from the VET schools decide not to not go on toet to advanced education, considers but rather directly straightforwardly enter the workforces showcase. In

the case that VET school graduates choose to go for advanced education, there is acknowledgment of their meaningful earlier learning is allowed.

The VET colleges appreciate a phenomenal notoriety both with youngsters and Austrian employers bosses. They are perceived as empowering understudies to procure aptitudes beyond past the optional upper level. For instance, in employment notices, there is often no distinction made between alumni from the VET schools and only individual alumni from colleges of connected sciences (Lassnigg, 2015). That is, bosses frequently open a similar occupation position for both VET school graduates and college of connected Sciences graduates. One motivation behind why a few managers lean toward alumni from VET schools over to holders of a four-year college education is the fuller more prominent extent of useful preparation that the VET universities offer, which teaches by the skills abilities requested by small and medium-sized firms that command the Austrian economy (Bliem and Petanovitsch, 2015). The VET colleges methodically interface curricular substance from vocational preparation and scholarly education, for instance, in the training organizations that are the basic learning site of the VET Colleges of Business Administration (Klimek, 2010). The VET universities represent give an alluring educational pathway, particularly for youngsters from families remote from the scholarly community, fundamentally because they offer a twofold capability that stipends get to both to advertise work and to advanced education. The choice to learn at a VET school, usually made at 14 years old, keeps open distinctive instructive and profession pathways, diminishing the danger of scholastic dropout (Leke, 2010).

The administration's duty regarding the VET schools lies with the capable service for instruction, – yet with an inclusion of boss and representative relationship inside the structure of the social organization. The VET schools are a part piece of the arrangement of the VET administration, given that they offer VET recognitions as a piece of the previously mentioned twofold capability.: They are liable to the Vocational Training Act to the extent that the entrance to formally managed jobs or the order in the wage scale are concerned (Trampusch, 2010). All the more, in Austria, the social accomplices have close binds to the political gatherings and services and can utilize these associations with impact arrangement making in the field of school-based VET. The services and political gatherings either formally or

casually coordinate the social accomplices throughinside the procedure of political supposition development. With full-time VET tutoring, the social accomplices have the optionprivilege to submit evaluations on subjects, such asfor example, changes in school laws and educational programs. What's more, they give students, schools, and firms with professional data and direction and they additionally bolster cooperation cultivating joins between the full-time professional schools and enterprises.

In entirety, the VET universities speak to an authoritative half-breed shape because they join taking in procedures from both VET and HE (Graf et al., 2012). This alludes, for instance, to the VET school twofold capability and additionally (at times) to the likelihood of being granted an engineering title. Furthermore, the VET schools area areis not exclusively subject to current academic school administration, but rather coordinates parts of administration commonplace for the Dual VET division. Thirdly, as far as their placearea in the training framework, the VET schools straddle the limit amongst VET and HE and also between upper-level optional and post-auxiliary types of learning (Brown, 2011). The last perspective is, for example, delineated by their solid acknowledgment in the residential work showcase, additionally also at the European level. However, the VET schools do not supplant the current institutional rationales or, what's more, types of education in the fields of VET and HE, butyet rather speak to an expansion to these two areas while in the meantime drawing on them bothtwo. This kind of progress looks like most intently the change method of layering, permitting VET universities to end up noticeably and immovably settled and even expandtend as a combination ofmixture situated between the frameworks of Dual apprenticeship preparationing and optional scholarly tutoring.

1.29 VET in the Austrian Development Cooperation

Despite the fact that VET has a longstanding custom and cooks for a high offer of the Austrian training framework, scholarly research on VET is constrained, particularlyspecifically in connection with universal development. As a result, there are practically nois nearly nothing if any hypothetical and applied civil arguments on the part of VET being developed participation. Approaches mean to line up with prevailing global improvement standards, for example, the neediness motivation from one viewpoint. On the other hand, they are confined by Austrian VET traditionculture and seem to have advanced

due to truly given individual endeavors or single events, as opposed to being the consequence of vital arrangement and basic leadership. As in Germany and Switzerland, VET has constantly assumed expected a key role part in Austrian improvement participation. Austria has kept up this critical concentration likewise amid the time of global need setting on essential instruction (Graf et al., 2012). As per a limited measure of ODA in correlation with grammarophone neighbors, ADC's VET spending plan is also extensively smaller. As indicated by the yearly ODA report by the ADC (Federal Ministry for European and International Affairs 2014: 46), in 2012, €6.5 million were committed to the instruction segment, which is 9.81% of the ADC's assets; €1.86 million were devoted to VET (ADA: ADC insights, possess computations). Truly, bolstering Austrian VET bolster has for the most part centered around specialized schools in beneficiary nations and on VET preparing at the post-optional level, for the bulk through grants. In Burkina Faso, a longstanding ADC needs a nation, endeavors have been made to bolster the formalization of VET, developing as a national VET framework connected to the general instruction framework (Langthaler, 2015). In the most recent decade, VET strengthening efforts bolster in non-formal or blended educational settings has gained in accepted expanded significance.

In Eastern and South-Eastern Europe, VET has been bolstered through various means and an assortment of ways. For example, through the formal training at the optional and post-auxiliary level and limit improvement at the authoritative level for administering bodies, education suppliers and related organizations for quality confirmation or accreditation (Viertel, 2010). Consistently, the Dual arrangement of apprenticeship has had to a lesser extent a material effect to a lesser extent than the theoretical effect on the Austrian Development Cooperation. Work-based learning and close collaboration within endeavors have dependably been an applied rule. However, development efforts bolster on the ground seems to have been more motivated by specialized schools at the optional upper level, a common practice specificity of the Austrian VET framework (cf. the accompanying section). Just as of late has to bolster for exchange exercises of the Dual framework expected expanded significance. This is for the most part because of a move towards private area improvements as a key need.

Additionally, the foundation of another spending line concentrating on collaboration with private business has expanded enthusiasm for Dual framework intercessions. With regards to 'business organizations,' private ventures can apply for financing of their practice exercises if their projects undertakings align with agree to ADA criteria. Regularly, these ventures incorporate VET exercises in creating or move nations given the Dual model. Be that as it may, the ADC has a broad range of dual framework motivated intercessions as depicted in more detail beneath. As of now, the ADC's VET development efforts bolster expects to agree to the universal rules of accomplice nations possession and arrangement. Additionally, directing standards are a promise to neediness lessen neediness and provide comprehensive education, sexual orientation uniformity, an all-encompassing methodology crosswise over levels and types of arrangement, pertinence for and agreements with nearby needs and also quality and maintainability of intercessions (Graf, 2013). Other than the ADC's help with authentic improvement, Austrian advancement NGOs have customarily considered VET to be a major field of mediation, both in focused projects and through segments in different projects. NGO exercises concentrate on non-formal education settings instead of the formal area. Be that as it may, a few associations have a very expanded portfolio, extending from small scale to the casual economy, through support of post-optional VET foundations. Various associations also additionally attempt VET ventures with Austrian efforts endeavors and are occupied with expanding this sort of this particular type participation. NGO support for to the role of VET part has undoubtedly been without a doubt motivated by the Austrian VET framework and culture. This is reflected in an abnormal state of trust in the viability of VET, as far as work creation and wage increment. Concerning the Dual framework, there is limited involvement in a direct exchange of the model, except for those NGOs working with Austrian efforts endeavors. Alternatively, maybe, NGO bolster has perhaps been surrounded by the general Austrian VET culture, as previously specified previously.

1.30 Transfer of Austrian VET

The transfer of the Austrian Dual framework is a somewhat later and early Marvel. Subsequently, research and documentation are rare. The accompanying sections principally draw on master interviews with Austrian key players in this field, conducted attempted

between November 2014 and May 2015 (see a rundown of interviewees in attachment). Because of the constrained nature extent of the present review, discoveries must be considered as preliminary, with and further research is recommendable.

1.31 The Status Quo

Considering the purposes behind the present pattern of transferring the Austrian Dual model, an Austrian point of view can be recognized from the viewpoint of target nations. The principle driver for the request is found in developing (youth) unemployment rates, to which the Dual model of apprenticeship gives off an impression of being a viable solution cure. This suspicion depends on the great business execution of the German-speaking nations. Strikingly, a significant degree of interviewees questioned this suspicion, depicting it as excessively short-sighted. Another applicable element is the interest for qualified workers in target nations, which their common VET frameworks appear to be not able to fulfill (King et al., 2011). Likewise, the OECD's recharged enthusiasm for abilities advancement instead of its previous concentrate on tertiary training must be viewed as a driving element.

From the Austrian viewpoint, the interest in for qualified work by Austrian ventures at their outside foundations is perceived as the prevalent driver for exchange exercises. Regularly, disappointment with the nearby preparing frameworks and also the craving to work with capabilities of saw Austrian benchmarks make organizations build up comparable preparing frameworks to those they have at their Austrian central station. Finally, Austrian political interests must be considered. Developing global energy for the Dual framework appears to create a seems to make it a sufficient vehicle for to upgrading the universal notoriety of Austrian businesses and Austrian (professional) training administrations. In this vein, some of the time organizations' inspirations to participate in (Dual) preparing exercises in creating and move nations are identified with the corporate social obligation (CSR) instead of aptitude requests. Due to Because of the high the social notoriety of the Austrian Dual framework, and the to a general trust in VET as a solution for unemployment, the social and formative estimation of VET is scarcely addressed. Therefore, organizations in their searchscan for CSR exercises in creating and move nations frequently pick (Dual) professional preparing.

The first target of nations for exchange exercises are situated in Ccentral, and Eeastern and also Ssouth Eeastern Europe (CEE and SEE), as this is the focal district of Austrian impact

and monetary venture. However, Be that as it may, there is likewise there is also an expansion in exchange to Turkey, Asian nations, (primarily mostly China), North Africa and Latin America. Barely any exchange activities are actualized in Sub-Saharan Africa or at all created nations (LDCs). Foundation conditions in all objective nations are depicted as basically not quite the same as Austria. The Dual model of apprenticeship is new to the nearby financial and instructive culture. Despite the fact that a type of Dual model was part a piece of the VET framework in during the seasons of communist administrations in the central and southeast Europe CEE and SEE area, these structures have been altogether destroyed. The normal Austrian institutional setting of partner exchange given a hidden social contract is truant in the objective nations. Moreover, Much more, the principal partners, such as those in Austria (managers' affiliations, exchange unions and specialists' portrayal bodies, business and work advertisement administrations) are either lost or excessively frail, making it impossible to satisfy an administration part as they do in Austria conceivably. When all is said and in done, visit faculty change in the foundations included, consolidated with political enthusiasm for instructive change, is depicted as an impediment. VET frameworks in the objective nations are principally school-based, and considered as lacking appropriate connections with endeavors and work markets. Professional training experiences low social notoriety. In a few nations, however not taking all things together, low levels of extensive instructive capabilities are considered to be accounted for as an issue.

Enter players Key players in the present pattern to exchange the Dual framework to creating and move nations can be assembled as takes after: a) gives and open organization, b) implementers (organizations, NGOs) and c) supporting associations. Key players at the level of contributors and open organization incorporate the Austrian Economic Chamber (WKÖ), the Austrian Development Agency (ADA), and the Ministries of Science, Research and Economy (BMFWF), of Education and Women's Affairs (BMBF), of European Integration and Foreign Affairs (BMEIA) and, to a minor extent, of Labor, Social Affairs and Consumer Protection.

The WKÖ might be viewed as one of the major proactive players at the framework's level due to because of its command of advancing the interests and exercises of Austrian private ventures. Through its worldwide system of 110 workplaces in 70 nations, it is in a key

position to bolster Austrian organizations abroad, specifically at the level of arrangements with services and other administering bodies in target nations. As people in general organization body responsible for the major issues identified with the Dual arrangement of apprenticeship in Austria, it goes about as an expert and proactive advertiser of the Dual framework towards accomplice nation governments or services.

The WKÖ distributed a methodology paper in 2014 on the internationalization of VET and education send out (MARTIN et al., 2016). This article set out WKÖ's three fundamental objectives around there as takes after: the battle against youth unemployment in Europe and past, support for Austrian organizations in securing qualified work, and securing the WKÖ's role part as a skilled body for apprenticeship education. Directing on the framework level and support for organizations required in pilot undertakings are expressed as real exercises. Through the Institute for Economic Promotion (WIFI) and its universal branch (WIFI International), the WKÖ gives grown-up and advanced education. WIFI International assumes a dynamic part in many target nations both as a supplier of education, administrations and as a supporting association for organizations planning to set up (Dual) preparing offices. The WKÖ controls the BMFWFV-possessed reserve Go International, which offers budgetary support to trading organizations (see below underneath). Compliant with their mutual fitness for the Dual framework in Austria, the BMFWFV and the BMBF go about as counseling partners for services and other representing bodies in target nations. The BMEIA is accountable for the Austrian Development Cooperation (ADC). Its part of the exchange of the Dual model is principally found in illuminating the ADC methodology in the training and monetary area as per other skilled services. The Ministry of Social Affairs is included in issues of exchange of the Dual model primarily in the EU and European nations. It assumes just a minor part in creating and exchanging for to target nations.

As the actualizing organization of the Austrian Development Cooperation, the ADA assumes a vital role in current exchange exercises identified with the Dual framework. This is in the mainly because of the way that the ADA offers the significant financing probability for privately owned businesses accessible in Austria. As delineated in section 2.3, the ADC has just as of late left on exercises identified with the Dual framework. The ADA does not have a specific technique for Dual framework mediations. In its central paper on VET (van den

Boom et al., 2010), Dual framework intercessions are specified as one instrument other than others. The ADA's approach stresses request introduction and setting affectability among its primary standards for VET programs including Dual framework intercessions.

Despite the fact that it's not inconspicuously said in ADA records, there is motivation to trust that Dual framework intercessions will incrementally increase in the coming years, especially within the system of private division advancement. The principle offer of ADA VET operations is actualized as nation projects in ADA need nations, which are composed in a joint effort with accomplice nation governments. Here, Dual framework exercises take part in a piece of these projects and include a continuum of intercessions. These range from exercises at the framework's level focusing on the foundation of partner discourse or the presentation of Dual framework sort changes in the school-based VET framework, through privately adjusted Dual framework sort undertakings to Dual framework preparing in the strict sense actualized by organizations and somewhat financed by the ADA. Past nation programs, Dual framework intercessions are upheld by ADA through their business associations in nations not in need of the ADA non-ADA need nations. These are preparing ventures by Austrian organizations at their remote foundations. In these cases, activities are not lined up with ADA nation programs, but rather need to follow ADA subsidizing criteria.

On the second gathering of key players, implementers of preparing plans enlivened by the Austrian Dual framework are for the most part Austrian privately owned businesses, which have foundations in creating or move nations. They extend from significant global ventures with Austrian central station to medium and private ventures. An important part of the organizations has a place with the part of assembling industry, while administrations are not included. Progressively, some improvement NGOs demonstrate an enthusiasm for coordinating with private business in creating nations incorporating professional preparing both with and without connection to the Austrian Dual framework. However, it must be said that different NGOs remain very disparaging of the contribution of private business being developed through collaboration. Now and again, non-governmental organizations are implementers for VET extends altogether financed by the private business without the bolster of the ADA bolster.

The third gathering of key players can be compressed as supporting associations. Suppliers of grown-up and advanced training administrations have, as of now, been specified. Different supporters are organizations of connected research and NGOs in the field of improved collaboration. The role part of these supporting associations varies based on as per their specific particular command. Frequently, it includes incorporates examination and planning of the setting in target nations, bolsters amid the application and authoritative procedures with the givers in Austria (predominantly ADA) and the transactions with accomplices in the objective nations. Now and again, the order includes incorporates an executing part to contrasting degrees. A few associations go about as stages for data and aptitude sharing at different levels, e.g. for educational establishments and services or Austrian organizations.

For a few NGOs, participation with agencies in the field of VET in creating nations is an aspect piece of their order. Others try to do as such since they have encountered more noteworthy proficiency and adaptability in these associations in contrast with reciprocal contributor associations. Another inspiration is found in the need to open up new money-related sources. At last, the expected higher nature of VET arrangement and related hardware has been specified for a reason. In Ddiscourse between players to date, there has been no type of regulated exchange between key stakeholders, not even at the ecclesiastical level. Casual and extend related discourse is accounted for to be distinctive and useful. A few interviewees call attention to that because of this casual exchange over late years it has been conceivable to accomplish a sort of basic comprehension on diverse critical perspectives. In any case, many interviewees express the desire for craving of closer nearer collaboration between the major players in the gathering of contributors and open organizations, including between Austrian players and those in the other German-speaking talking nations. The exchange between the ADA and organizations will be discussed talked about in the coming sections.

Subsidizing potential outcomes As discussed previously said recently, the primary financing probability for the exchange of the Dual framework into creating and move nations is the ADA spending line for business associations. Ventures are expecting to put resources into creating or move nations that consent to ADA financing criteria are furnished with a giving of greatest half of venture expenses (up to €200,000, sometimes €500,000). Practicality studies may likewise be financed from these assets. The BMWFW has supplied the Go

International store, which is controlled by the WKÖ and open to pilot ventures going for the exchange of the Dual framework. As opposed to the ADA business organizations, this reserve is expected to bolster mastery exchange and additionally applied and start-up exercises instead of business ventures themselves. The BMBF has a relatively little spending plan for two-sided collaboration, visits of appointments and specialists or exercises at the school level. The Ministry of Social Affairs infrequently likewise gives financing to exchange exercises; nonetheless, these are fundamentally bound to EU part or pre-accession nations.

EU reserves open to cover exchange exercises are presently seen as rare, yet may increment sooner rather than later. There is an extensive variety of preparing plans being set up in creating and move nations, which allude in some viewpoint to the Austrian Dual model. Just not very many of these nearly compare to the Dual model while the significant part actualizes a few angles or ideas identified with it. Exhibit cases of Dual training game plans are built up by the Austrian bundling delivering organization Alpha in Mexico¹³ and by a similar organization in association with the machine building organization Engel in Shanghai, China¹⁴. In both cases, the Austrian organizations have begun in-house apprenticeship training at their neighborhood foundations. Understudies are associatively trained at nearby VET schools with which the organizations have gone into key organizations to accommodate official acknowledgment of their apprenticeship preparing. Work profiles reacting to the capabilities required by the organizations were created, bolstered by Austrian establishments and in collaboration with neighborhood government, business delegates, and training bodies. Mentor preparing as per Austrian guidelines is additionally of key significance. The ADA mostly finances both undertakings through the business organization spending line.

Now and again, conditions for setting up Dual framework education training in the strict sense are thought to be deficiently developed. Therefore, training game plans an attempt to actualize Dual framework components as fitting under given conditions. One illustration is a preparation course of action built up by the Austrian organization Naber in the Albanian material part in participation with nearby experts, included schools and neighborhood Albanian companies¹⁵. Partner discourse has brought about modernized educational modules, mirroring the necessities of business, comparing educator preparing and the

presentation of occasional in-organization preparing, while the real piece of direction keeps on occurring at schools.

Different sorts of training plans set up by Austrian organizations in creating and move nations are propelled by the Austrian Dual framework, yet don't nearly compare to it. The training itself happens at former neighborhood VET schools. Once in a while, particular preparing focuses are set up. Students are now and again young people at 15 years old or more. Frequently, in any case, grown-ups get further preparing of their prior capabilities. In the last case, these preparation courses of action are not to be named introductory VET in a strict sense, yet rather as further or grown-up VET. Nonetheless, a considerable lot of these preparation courses of action are firmly roused by the Austrian Dual framework as far as an educational program being specifically educated by the requirements of the business, mentors being either conveyed from Austria or prepared to Austrian models and preparing to be more useful than hypothetical. Also, frequently the Austrian players required in collaboration with nearby and national representing bodies endeavor to make an institutional setting like that in Austria by including every single pertinent partner.

In different cases, the soul of the Dual framework is being acquainted with changing degrees into the nearby VET educational systems. In these cases, driving Austrian players are not so much privately owned businesses, but rather mediations are executed as a major aspect of the ADA nation programs or as an outcome of strategy exchange discourse at the level of open organization. In light of the individual request by accomplice nations and close collaboration with the particular nearby foundations, ways and means are recognized to change existing school-based VET as far as upgrading its significance for the organizations and work markets. Frequently this appears in an expanding number of entry-level positions in organizations or in presenting consistent in organization preparing in the educational modules of schools. Another illustration is the foundation of preparing firms keeping in mind the end goal to bolster home arranged education¹⁶. As a premise of such changes, nascent institutional courses of action of partner association are set up. Since existing institutional settings are somewhat divided, frequently such courses of action are at first kept to specific segments or locales.

Austrian improvement NGOs have a long convention in VET arrangement. Ventures include an extensive variety of VET sorts as indicated by the order and potential outcomes of the particular association. A few associations work with little scale extends regularly situated in the casual and country segments, where VET is one anticipate segment. Different associations work on many scales from the casual segment to high-innovation VET schools. While VET participation with nearby organizations at various degrees has dependably been a subject for NGOs, business associations with created nation based firms are progressively important to many, however not all NGOs. VET extends by Austrian advancement NGOs are firmly propelled by the Dual model, despite the fact that they once in a while include Dual model apprenticeship preparing in the strict sense. This motivation is reflected in VET originations including a mix of hypothetical and handy preparing and also solid work market and business introduction.

Achievement figures their review on achievement components of the Dual framework and potential outcomes of aptitude exchange, Bliem et al. (2014) portray seven center measurements of the Austrian Dual model, which they consider pivotal for effective usage somewhere else. This review has turned into a perspective for the primary players in Austria. Interviewees broadly share the seven components for achievement includes: 1. 'Administration and financing: social accomplices, particularly organizations, are the bearers of apprenticeship 2. Professional idea: livelihoods are more than occupations 3. Benefits for the processing plants: an apprenticeship is likewise advantageous for the preparation organization 4. Systems of value affirmation: quality is the duty of all partners 5. Instruments for customization and advancement: an apprenticeship acclimates to changing capability necessities 6. Interest for youngsters: an apprenticeship as an appealing preparing way for youngsters. Organization and usage: lean organization and clear, straightforward procedures (Langthaler, 2015).

Other than these measurements, interviewees revealed components of accomplishment particular to their association. From the viewpoint of givers and executing associations, adaptability, setting affectability, nearby possession and solid partner inclusion are named. Concerning Austrian organizations, responsibility for the highest amount to take part informative exercises is viewed as critical, and also the readiness to give qualified workforce

to the venture, at the neighborhood foundations, as well as at the home office. Political will by the included gatherings, most importantly in the objective nation, is singled out as one of the principle achievement components. General support for the presentation of Dual framework sort changes by National and local government are considered as imperative as the availability of straightforwardly included players to take part in a medium to long haul prepare. Likewise, the preparation of included services and schools to cease from current abilities seems urgent. To wrap things up, the level of individual duty by key partners, including mentors and the students' families, turns out to be a critical element.

Interviewees dynamic at the framework level indicate the frequently dismissed certainty that the mix of in organization and school-based preparing is essential for the Dual framework's achievement in Austria. This ought to likewise be considered in an exchange setting, which is regularly surrounded by a high level of deterioration of neighborhood school-based VET frameworks. Lessons of experience Interviews held with regards to the present review mostly allude to a sort of new era of late Dual framework intercessions. Because of the ADA's key part additionally on account of persuasive reviews like Bliem et al. (2014 cf. 29), ideas, for example, setting affectability, arrangement to neighborhood needs and linkages with the nearby frameworks.

1.32 Contribution of VET to Human Capital Development

The sustainable development goal is achieved through human development. The long-term sustainable economic growth requires human development. The endogenous growth theory explains the importance of human development for the economic growth. In addition to this human capital and the skills of labor also affects the sustainable economic growth (DUTTA). The previous literature has also focused on the economic growth of a country and linked it with the human development. The quality of governance and accountability of government also play a vital role in achieving the target of sustainable economic development. However, vocational and technical education has gained the popularity in the successful human development. The skilled workers and educated citizens are imperative for the social and economic development of a country (Goel, 2009). Similarly, another study shows that VET serves as a main tool in the human development and enhancing their skills to meet the demands of rapidly advancing technology and competitive global market (Okwelle and

Ayonmike, 2014). It was also found that vocational and technical education provides valuable skills beside the common education and helps the workforce to enhance the productivity of enterprises. In this way, the small medium enterprises turn a small economy into a sustainable economy.

Vocational and technical education also increase the opportunities for a community. The rapidly changing working tactics has increased the demands of technically skilled workers. One of the study shows that Vocational and technical education provide technical training to a person and make them capable of initiating, facilitating, and implementing the technological innovations in the enterprises to enhance the speed of development (Uwaifo, 2010). VET not only imparts technical and vocational skills in an individual but also make them aware of different aspects of the competitive global market. This knowledge helps them to participate in the economic development of a country actively. In another study, it was found that vocational and technical education prepare an individual to get a good job and serve as a productive unit in the economic development (Malamud and Pop-Eleches, 2010). All these studies show the significant contribution of VET in the sustainable social development. Likewise, Jallah (2004), described TVET as the “master key” to sustainable economic development (Jallah, 2004). This highlights the importance of TVET in the competitive global market (Boutin et al., 2009). Similarly, various research studies have highlighted the significance of human development. However, the question arises whether the technical institutions have the equipment and instruments to train the individuals according to the demands of the competitive global market.

It is worthy to mention that all the technical institutes have tools to train the workers and enhance useful skills. One another important aspect is that supervisors have the competencies to handle the tools and provide high-quality instructions to the workers. There is a loophole in the vocational and technical education highlighted from previous research. The teaching staff should be competent enough to deliver practical knowledge and guidance to the workers. In addition to these, the curriculum of vocational and technical education should be in consonance with the international standards (Union, 2007). The efficacious human development is only possible through a high level of training in by the qualified and

competent trainers in the technical and vocational institutes. In this way, a sustainable society is developed which facilitate in sustainable economic development.

1.33 Challenges in VET

VET has provided both technical support to the countries to effectively cope with the rapid thrusts of modernization and industrialization. The VET programs have focused on developing the capacity of countries to supply skilled labor that can effectively use their skills to speed up the economic growth. However, VET faced several challenges mostly in the developing countries. In these countries, the lack of coordination between the government ministries and the VET authorities have caused unnecessary delays in the provision of effective VET programs. The training systems are often fragmented and lack the basic instruments to provide technical training that deprive the trainees to understand the rapid industrialization in the world.

Another significant challenge to the VET programs is the lack of sufficient funding. The pressure of financing has suspended the public training under the VET programs (Juul and Jørgensen, 2011). Privatization of vocational education and training has considerably increased the course of VET. It is not possible for middle-class workers to avail training from a private sector. In addition to these, the private providers of VET programs focus on information and communication technologies and avoid high-cost industrial training. Therefore, these private VETs are not serving the cause of sustainable economic development. Moreover, these private centers are predominantly located in the main cities and least attract the vulnerable group which requires training for active participation in the industrial growth. The government is also concerned about the quality and quantity of privately owned VET centers and therefore continuously scrutinize the training program for quality assurance. These issues can be solved through the provision of enterprise-based training. However, it is not possible in the underdeveloped countries as it can lead to economic crisis. Furthermore, the small and medium enterprises have not sufficient funds to invest in the training programs with a fear that after training the worker would leave and find opportunities somewhere else. All these challenges need to be resolved to enhance the role of VET in sustainable economic development.

1.34 Reforms in VET and Manpower

Reforming vocational education and training programs according to the social and economic demands is a continuous process. Recently, the reforms are made to meet the demands of evolving industries by providing educated, skilled and motivated workforce. One of the studies reported that with the passage of time the skills required to boost the economy had changed radically (Berry and Hay, 2016). However, the skills taught in the schools are same and only slightly changed. The technological boom and industrialization have increased the demand for skilled manpower to speed up the economic growth in developed countries. The end of communism marks the beginning of man-made industries with high innovative technology. These changes have transformed the demography of the world. In the current scenario, there is no dominant economic power, the only factor that serves as a competitive advantage in the global economy is skilled manpower. Therefore, skills are imperative to participate in the sustainable economic development of a country. The competitive business markets prefer innovation over production. This has also increased the association between economy, education and human resources. Human capital is defined as “an accumulated stock of skills and talents, and it manifests itself in the educated and skilled workforce in a region” (Thomas, 2002). In the modern economic system, human capital varies significantly from its traditional definition. The current human capital is characterized by a specialized connection to the man. The modern economist considers the human capital theory as the key contributor to sustainable economic growth. When the role of human capital is acknowledged, it becomes clear very quickly that education played a huge role in developing human capital and therefore indirectly regulates the economic growth of a country or a region.

In the 21st century, additional skills are required to compete in the global arena. These skills include hard and soft skills which are developed through vocational education and training. Some of the hard skills are learning basic arithmetic, problem-solving skills at a higher level than the current condition. Similarly, the soft skills are group learning, teamwork, and oral presentation. A multi-dimensional VET programs are effective to equip the workforce with all these hard and soft skills. The main objectives of multi-dimensional VET are following:

- a) A flexible curriculum and specialized training.

- b) Incorporation of technical training and general education in business, education and private enterprises.
- c) Extensive, flexible learning programs to meet the rapidly evolving demands of the job.
- d) Developing the knowledge of advanced technologies and skills for their proper use in economic sector.
- e) Developing effective communication skills.
- f) More focus on teamwork and promoting non-technical characteristics such as leadership skills, time management, and decision-making.
- g) Developing Entrepreneurial skills.

In addition to these, the VET programs should be diverse and also meet the public demands. Therefore, the VET programs of economies in transition must be flexible enough to adapt the rapidly changing external economic environment. This VET should provide highly mobile, skilled workforce equipped with the advanced skills to adapt the changes and work with full motivation for the sustainable economic development. In the communist countries, schools provide the vocational education and training. However, in the last decade, the system has changed rapidly, and the vocational education and training programs have emerged as a unique system of education which provides technical skills and knowledge to the talented youth of a country. The communist vocational education and training programs were criticized because of lack of jobs in the relevant fields and significantly high cost of the programs. The vocational education and training programs can be effective and play a significant role if harmonized with the domestic and global developmental strategies. In this way, VET can eradicate the poverty and leads to sustainable social and economic development of underdeveloped countries.

The modern society of 21st century can be characterized by the multi-skilled workers equipped with the diverse knowledge of scientific principles and implement this knowledge to resolve the societal and economic issues of a country. Therefore, VET reforms should upgrade the level of education provided to an individual of a country and incorporate the

knowledge of cross-disciplinary education. All this can be ensured through proper training and provision of quality vocational education which increase the skills of the workforce. This will help in the sustainable economic development of a region in the future.

1.35 Comparison of General Education with VET

It is crucial for the policy makers to compare the perceived and actual benefits of general education and vocational education and training. If the advantages of general education and VET are not significantly different, it is the duty of the authority to invest in the right education system. However, there is no tool to differentiate general education with vocational education and training properly. The biggest problem is the lack of data to evaluate the benefit of both education systems. The previous studies have collected data using the International standard classification of education (ISCED) without recording the type of education (Schneider and Kogan, 2008). Therefore, the previous literature has not focused on the benefits of general and vocational education. However, the economic theory explains the benefits regarding wages and skills of the labors. This shows in the labor market if employers understand the importance of qualified and skilled labor they will hire a skilled worker qualified from vocational education and training programs (Barabasch and Wolf, 2011). In another study, it was found that employees who have more skills find different tracks which suit their skills and expertise and get higher wages (Meer, 2007). In consonance with these findings, another study shows that VET students appear to be more skilled than the general education students and thus additional general education does not improve their skills (Hartog and Oosterbeek, 2007).

A case study analyzed the impact of vocational education and training on the wages and employability. In this study, various data sets from the member states of European Union were analyzed, and it was found that various education systems are slightly different from each other (Charron et al., 2014). However, the students who acquire VET have a competitive edge to find a good job. The recent research also indicates that both VET and general education system generate equal benefits (Bartlett, 2009). In another study, it was found that VET provides wider benefit regarding civic competencies, and better health (Sabates et al., 2010). Given the current situation, there is the only slight difference in return on investment in both VET and general education system. Therefore solid ground is available

to differentiate the investment benefits between VET and general education (Billett, 2011). The research has also shown a need to balance investment in different education and training system across Europe (Barabasch and Wolf, 2011). In another study, it was found that although wages after graduating from VET and general education are almost similar, there is evidence of a difference in pattern of earnings (Cedefop, 2012). During the first year of the labor market, the VET qualified person receives higher wage as compared to an individual who is qualified from the general education system. This shows that VET is the way forward towards the sustainable economic development. It is also found that the competitive advantage of VET only lasts for the initial phase and after that general education catch up with the VET. This shift is attributed to the transferable skills learned in the general education system. The research shows that VET programs should also emphasize on the transferable skills. In this way, VET programs can outmatch the general education system. These findings suggest that VET and general education have almost equal benefits, it is fair to say that both systems of education are complementary to each other (Lazear, 2009). However, VET can be effective regarding economic growth if it is designed properly considering the demands of the domestic and global market. Given this reforms in VET can ensure the sustainable economic development of a country.

1.36 Benefits of VET

The main benefits of the education system are classified as a market benefit and non-market benefit (McMahon, 2004). Figure 2.5 shows the various market and non-market benefit of VET.

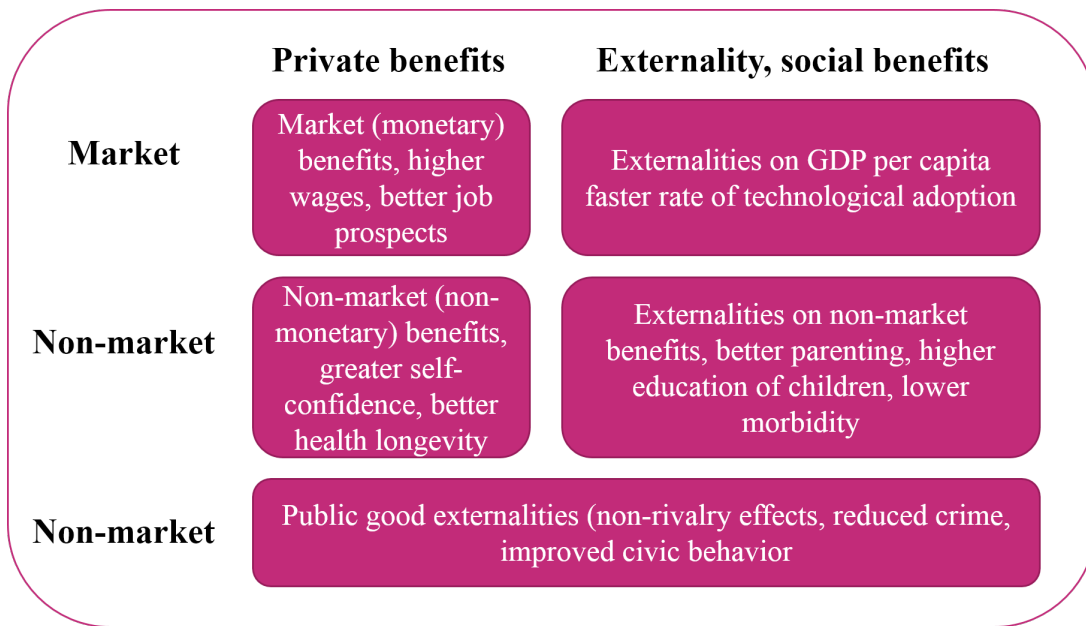


Figure 1: Benefits of VET (Source: McMahon, 2004)

The benefits are provided through private markets which include higher wages, increased employment opportunities. Similarly, private non-market also provident benefits. However labor market is not involved in these benefits. In addition to these, there are several other advantages of VET. A highly skilled worker can improve the innovative production of an organization. This can ultimately speed up the GDP growth of a country. The non-market benefit of VET is prominent at the social level. Vocationally trained and educated individual have more understanding of their civic rights and their responsibility this helps in the establishment of a stable democracy. The stable political system of the country is also a vital element in sustainable economic growth. The rise of education level also marks the beginning of an innovative era in the industries which increase the general growth rate. There are evidence which suggest the importance of dynamic externalities for the sustainable economic growth of a country (Anglin, 2014). Externalities are defined as the sum of all the benefits which a society avail is greater than individual benefits. The example of externalities that VET programs bring in a society includes less criminal activities. This optimizes the chance of foreign investments and ultimately leads to sustainable economic development. However, some of the externalities are not positive such as high investment in the education is associated with the low fertility and increased longevity. The increase in old population put

extra pressure on health care services. Figure 2.6 shows the market and non-market benefits of vocational education and training on the citizens, enterprises and the community.

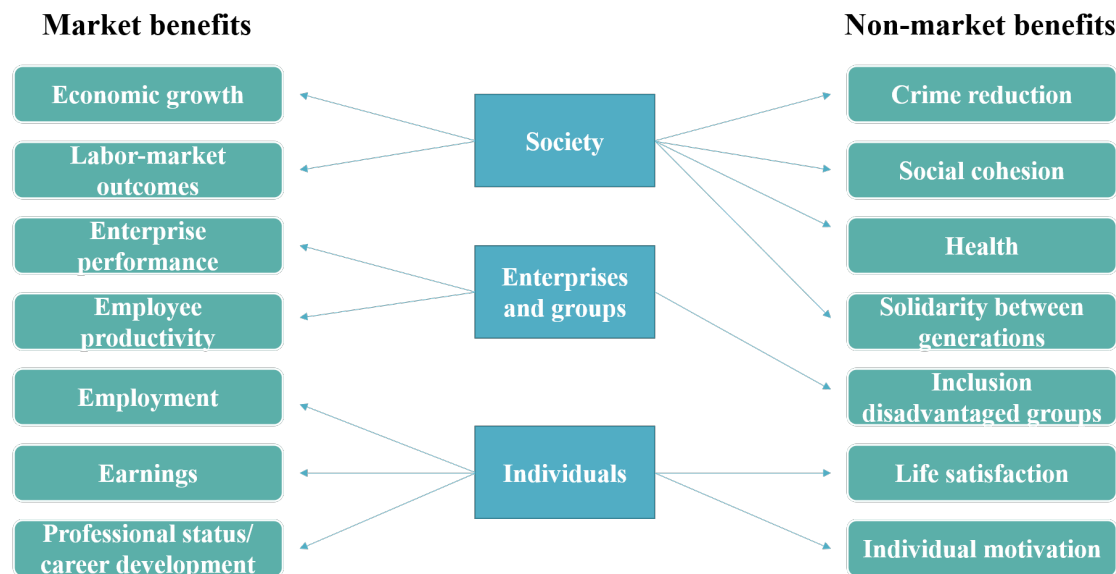


Figure 2: Benefits of Vocational Education and Training (Source: Cedefop, 2012)

The above figure shows various benefits of vocational education and training. It serves in diverse social institutions, business enterprises, and public sectors. The delivery of vocational education and training programs also varies from country to country. It can be either continuous, formal, informal, school-based or enterprise based. Studies have shown the benefits of vocational and technical education on the social and economic development (Russo et al., 2013). Therefore, developing countries require a robust vocational education and training programs to meet their requirement of sustainable economic development.

1.37 Market benefits of VET

Some of the prominent market benefits of vocational education and training programs are listed in the above Figure 2.6. These benefits can be divided in between three stakeholders.

Vocational education and training sharpens the skills of people and ultimately increase their market demand with increased salaries (Hartog and Oosterbeek, 2007) and also improves their job opportunities (Dickson and Harmon, 2011). The evidence of increased individual income is reported in 100 countries all over the world (Harmon et al., 2003). Vocational

education and training are multi-dimensional and diverse therefore several studies reported mixed results; such as some studies reported a substantial increase in wages while others reported an only slight increase in the salaries. Studies found a positive impact of VET on the Dutch and Swedish workers (Russo et al., 2013) as compared to that of German workers (Russo et al., 2013). However, one of the French studies revealed significant extension in the job tenure and high wages for a long period (Dorsett et al., 2010, Brunello et al., 2012). All these studies are strong evidence of significant market benefit to the individual who is VET qualified.

In addition to the monetary benefits, VET also improves the professional life of an individual. Studies conducted in Netherland and Denmark shows the positive impact of vocational education and training on the professional life of an individual. One of the researchers analyzed different qualification levels and evaluated the skills level of the individuals in 15 Member States of European Union. It was found that with the additional year of vocational education and training the skills level improves and people become more skilled in performing complex tasks (Cedefop, 2012). These findings are associated with high earning at the initial stage of VET graduates. The results of the Cedefop analysis cannot be generalized for all the students. It is observed that some students are not able to actively participate in VET due to various issues. Therefore, these students are not able to contribute to the sustainable economic development. The analysis also revealed that chances of increase in wages and employment opportunities if a person continues VET programs. Therefore, vocational education and training is the key to individual growth in the competitive market.

Vocational education and training also provide significant benefits to the enterprises. Economic theory also forecasts improved performance through investment in the vocational education and training programs. Meta-analysis of various US studies has revealed the positive impact of VET on the organizations regarding increased performance, productivity, employees satisfaction, customer satisfaction and innovation (Crook et al., 2011). However, the impact on profit generation is not prominent in this study. It was also found that proper vocational education and training improves the skills and productivity capabilities of an individual with a sharp rise in wages. However, if the rise in wages is too fast compared to the productivity, it will reduce the profit of an organization and thus, blocks the economic

growth of the organization. Despite these results, studies conducted in Austria, Denmark, Norway, and Sweden have revealed an increased productivity associated with the enterprise-based VET programs (Cedefop, 2012). Now the question arises a number of benefits organizations generate from VET. This issue depends on the underlying factors such as organization management, effective management of VET programs and proper resource management. Therefore, it is important for an organization to effectively manage all the operation to avail the benefits of vocational education and training programs.

Several studies have revealed significant benefit of strong human development and increased GDP per capita growth of a country through VET (Cohen and Soto, 2007). Research conducted on the human development has shown that economic performance of a country improves with skilled workforce. One of the studies analyzed the productivity of the workforce and the different skills developed through VET in seven Member States of European Union including Germany, Spain, France, Denmark, the UK, Sweden and Netherlands (Cedefop, 2012). Growth analysis shows that in most of these countries the productivity of labors is associated with higher-level of skills learned through VET programs. Another study found that investment in higher education can improve the innovative capacity of a country, and investment in VET can increase the innovation implementation capacity of a country. These studies show the significant impact on the sustainable economic growth of a country. The market benefit of VET indicates that continuing VET is complementary for the sustainable economic development of a country.

1.38 Non-Market benefits of VET

Just like the market benefits, there are some non-market benefits of VET. These benefits spread across three stakeholders. The non-market benefit of VET for individuals, education, and countries are described below. A region flourishes by its market and non-market competitiveness. Similarly, VET has several non-market benefits for the individuals of society. Studies have shown that VET develops an understanding of civic rights and infuse competencies in the member of society (Hoskins et al., 2012, Schnittker and Behrman, 2012), it also improves their health (Field, 2009) and health-related behavior (Lochner, 2011). One of the studies determined the association between education and the three most important social outcomes; health, political interest, and the interpersonal trust. It was found that

education is significantly associated with improved social outcomes (Scarpetta et al., 2010). In another study, it was found that less-educated people tend to get more non-market benefits of VET as compared to more-educated people (Wößmann and Schütz, 2006). According to Cedefop (2011), national context is also important to determine the non-market benefit of VET in a country. In this study, it was found that people in Europe recognized VET an essential element for better health and increased job satisfaction. In Finland and Sweden, VET is associated with individual wellbeing. In countries like Denmark, Germany, Luxembourg, and Austria, people find VET as helpful in acquiring membership of various organizations. High level of job satisfaction is also reported in Greece, Spain, Italy, and Portugal and in countries such as Denmark, Luxembourg, and Austria where VET is highly developed and well-structured. These findings suggest that VET significantly improves the social and professional life of an individual which ultimately motivate the individuals to achieve the goal of sustainable regional development.

Despite all these positive impacts, countries such as Portugal, continuing VET is not associated with the positive health outcomes for individuals. However, non-market benefits are usually measured through improved psychological satisfaction of individuals and increased self-confidence. So, the people of EU avail all these positive benefits of VET which is a very positive sign towards a sustainable regional development.

Just like non-market benefits for individuals, enterprises also gain valuable non-market benefit. Previous studies have shown investment in human capital is significantly associated with reduced turnover rate (Benson, 2006). Similarly, another study found that VET improves the commitment of employee towards the organization and therefore significantly reduce labor turnover (Russo et al., 2013). These findings are consistent with studies conducted in the US (Veum, 1997), Switzerland (Zweimüller and Winter-Ebmer, 2000) and in Japan (Higashi, 2002). Higher job satisfaction is the main factor behind the significant reduction in labor turnover (Ferdig, 2005).

Other non-market for enterprises include improved managerial and technical skills of employees. These employees later participate in the growth of the company through their innovative business ideas. Training of employees is a critical step for all the organizations. If employees finance the training programs, it will have an adverse impact on their job

satisfaction and employees is more likely to leave the job for a better opportunity. The organization funded training improves the skills of employees and motivate them towards the organizational goals. In addition to these, a skilled employee trained through VET helps other staff in the organization and provide valuable knowledge to others (Hogarth, 2011). The European Commission (2006) report also provide evidence of transferring VET knowledge from older employees to younger employees ultimately benefits the organization. These advantages show that VET is imperative for the sustainable growth of an organization which ultimately leads to the economic development of the country.

Vocational education and training bring benefits to a country and a region as a whole. The non-market benefit of VET on a country includes improved health status of its citizens, the democratization of its institutes (Hoskins et al., 2008), reduction in crimes (Lochner, 2011). One of the studies conducted in Denmark reported that VET is the most suitable educational system for improving the youth of a country (Christoffersen et al., 2003). The lack of vocational education and training in the schools of UK increase the risk of delinquency (Russo et al., 2013). These findings suggest the non-market benefit of VET for a country leads to its prosperity and development. VET influences the macro social and micro social level of a country. The growth of a country depends upon these macro social and micro social level of its society. VET tends to significantly improve the society at these two levels and ultimately benefits a country. VET infuse social equality and promotes social cohesion and mainstream the society towards sustainable development. According to Cedefop (2011), European countries such as Finland, Germany, Norway, UK, and Lithuania have shown significant improvement in its society through successful VET. Therefore, VET is an important stakeholder for regional stability and sustainable development.

Entrepreneurship and Industrialization

Industrialization helps to develop the capacity of a country to utilize its natural resources and convert the raw materials into useful products. Industrialization also makes a country self-dependent in production. In the last few years, the researchers have studied the association between the entrepreneurship and industrialization as the key towards economic development. One study revealed that entrepreneurs are key for successful industrialization

(Ács and Naudé, 2012). They are also vital for establishing a modern economy (Naudé, 2010). Naude (2010) also argued that entrepreneurship help the individuals to capitalize on the opportunities in the open market and establish new business firms. There is a strong linkage between the small firms and large firms through projects which are outsourced (Ács and Naudé, 2012). Therefore new entrepreneurial opportunities are created for economic growth. It was also found that small firms can seize these opportunities by operating in clusters (Richardson et al., 2012, Andersson and Klepper, 2013). Industrialization in a country flourishes through entrepreneurship and business incubators for gaining regional strength through the networks of small firms. This shows the importance of small firms for the rapid industrialization of a region (Costantini et al., 2010). By creating a favorable environment for the entrepreneurs to establish will ultimately help in industrial revolution which is vital for self-sustained economic development. The state also provides shelter to the organizations and the society during the industrial development. The clusters of small firms give rise to “innovation system” which is only possible through the cooperation among the three stakeholders of a Triple Helix model, university-industry, and the government. The clusters of small firms give a competitive advantage to the economy at the global level (Porter, 2011).

1.39 Entrepreneurship Process

There are four different phases in entrepreneurship; these include the concept phase, the gestation phase, the infancy phase and the adolescence phase (Reynolds, 1993). All these phases are essential for innovative entrepreneurship in the industries. In the coming sections, we will discuss each of these four phases.

In the initial phases, the entrepreneurial abilities of an individual stand out as the key to the start-up of a business and their success. The major entrepreneurial abilities are alertness to seize the opportunity for the success of business firm (Licht, 2007, Baron, 2006) and capacity to act under risk (Cramer et al., 2002). In the general education, teachers give special attention to these abilities. In this way, an individual who starts his new business are optimistic and became successful entrepreneurs without any potential opportunity (Åstebro et al., 2007). The potential entrepreneurs go through conception phase of entrepreneurship. These individual usually prefer to be self-employed rather than working in any organization

(Blanchflower, 2004). According to a study, it was found that almost 25% of the labor force are potential entrepreneurs (Lazear, 2003). However, opportunities are defined in different ways, one of the definitions of opportunity is the time when one can use successfully sell goods at a high profit (Shane and Venkataraman, 2000). There different possibilities for the entrepreneurs, however all of these are not related to the economic growth (Sobel et al., 2007). In the developing countries, the psychological aspect of opportunities in entrepreneurship is not researched thoroughly. The first reason identified for this is the lack of interest by the people to gain opportunities. One of the reviews suggested that indigent people are unable to perceive opportunities and therefore they lack psychological commitment to make money and live in poverty (Banerjee and Duflo, 2007). The second reason is the assumption of high risk associated with exploiting opportunities with uncertainty. The potential losses may outrank the benefits of opportunities. Therefore, family business and household enterprises face difficulties in innovating and adapting to the new advancements in business.

1.40 Economic Development and Entrepreneurship

The process of economic development consists of the transformation of the traditional economy towards a modern economy based on the principles of technological advancements and high-quality services. Economic development occurs through qualitative and quantitative changes in the productivity of a workforce. If these qualitative and quantitative changes bring significant improvements in human welfare, then these are called economic development. Entrepreneurship can play a positive role in both the qualitative and quantitative economic development. Globally entrepreneurship is viewed as an essential element of economic development and creates more jobs, reduce fiscal burden and increase competition.

1.41 Transformation of Economy, Innovation-driven Growth and Entrepreneurship

In the human evolutionary history, economic growth and increasing the per capita income is a new concept. In the ancient times, human societies lived in the conventional state. One of the researchers distinguished between two different eras of industries (Doepke, 2010). One is the pre-industrial era, and the other is post-industrial era. According to this study, the

transformation from pre-industrial era to post-industrial era is characterized by increased technological advancement and human capital accumulation in the industries. One another study argued that introduction technology in the industry require specialization to get the benefit of technology (Tamura, 2002). The economic growth starts when the population of a country starts investing in the better quality of their children instead of quantity (Naudé, 2010). Once the economic growth starts the economic development take off transformation to the modern sector. Here, the role of entrepreneurship in economic development can be understood through its active participation in the transition of the economy from traditional to the modern industrial economy. Entrepreneurship also enables sustainable growth of an economy based on innovation in the industries. One of the study shows that with the introduction of entrepreneurship the per capita income of population in the Western countries increased exponentially. In the pre-industrial era, the biggest problem was a low entrepreneurial ability with limited opportunities of growth restricted the economic growth. However, with the passage of time, the population density increased, and the growing urbanization resulted in technological advancement in agriculture and transport which eventually led to economic growth. The vocational education and training programs also created the environment for learning and innovation which enable the adoption of latest technology at a faster rate (Tamura, 2002).

One another benefit of investment in entrepreneurial capital is that household strategy changed from quantity for their offspring's to quality (Naudé, 2010). There are two ways which helped to enhance the entrepreneurial ability and its effectiveness during the economic transformation (Cagetti and De Nardi, 2006). The first way is that parents tend to transfer necessary human capital to improve the knowledge of their children. For example, it is seen that children of entrepreneurs are more likely to be an entrepreneur (Arenius and Minniti, 2005, Stam et al., 2006). The second way is that parents transfer capital to their children and help them to develop new entrepreneurial venture. The economic development from pre-industrial era to post-industrial era is the fruit of dual economy model which explains the structural transformation of economies in the developing countries and are inspired by seminal contributions. The economic transformation is explained by the dual economy model as the co-existence and movement of the labor force from traditional economic sector to the modern economic sector. The flow of labor from traditional sector to the modern sector is

due to improved entrepreneurial skills and increased knowledge through vocational institutes. The labor force also gets higher productivity in the modern sector as compared to that of a traditional sector. The growth of the economy is related to the increased productivity in the modern industrial sector with increased per capita income (Rada, 2007).

1.42 European Perspective on Academic Policies and Entrepreneurship

The two questions associated with the economic growth of a society is that what are the ways to create value and wealth, and how this wealth can be distributed within a society. The answer of these two questions universities. These are not only the social institutions of knowledge but also provide the community a chance for experimentation and innovation concerning the society and region (Breznitz and Feldman, 2012, Leyden and Link, 2013, Carree et al., 2014, Audretsch et al., 2006). After the World War II, the world has seen a significant shift in the higher education sector. The rapid growth in the industrial sector has shifted the focus from the Arts and Humanities field towards all the fields of natural science and contemporary science including management and finance to formulate a sustainable region better. The second major change is seen in rapid globalization and interrelatedness of business markets which compete for the limited resource specifically the knowledge and human capital (Audretsch et al., 2014, Acs et al., 2013, Ghio et al., 2015). The dynamic changes in the global business environment and sustainability can be seen through the educational institutes of a country. It is considered that highly developed countries like the US and the UK have world class top ranked educational institutes and the educational institutes of Europe are stuck in the middle. The changes in the educational system of a country are reflected in three different models of the political system and economic system which reform the educational institutes of a country. In Europe Greco-Christian model of politics is prevalent and it has to cope with the rising challenges of globalization. The market-based economy shows that the countries with entrepreneurship driven education system are more likely to become a sustainable economy. In the recent years, academic entrepreneurship has become an important aspect of economic development. The European Union member states are also focusing on increasing the entrepreneurship capabilities of youth to make sure that they have a strong strategy for economic development. Therefore, academic policies emphasize on vocational education and training of the individuals to

develop entrepreneurship skills. This will ultimately enhance the speed of economic development and helps the region to achieve the goals of sustainable economic development.

The European region is still facing the aftermaths of the financial crisis of the last decade. However, the biggest challenges to industrialization and entrepreneurship are seen in Eastern Europe. During the early period of economic development and integration with the global economy, the Eastern Europe made a significant progress and attracted billions of dollars of foreign direct investment. However, these proved to be temporary as the enterprises were not competitive enough to converge with the advanced enterprises. Therefore, fewer opportunities were available for the firms in the Eastern Europe. Maximum opportunities can be provided to the entrepreneurs of Eastern Europe by tackling the menace of red tape, corruption and forming effective legislation to regulate the economic affairs (Oberoi, 2014). This region could become the new economic hub by the establishment of innovative entrepreneurial calls.

Sustainable economic development is achieved by creating a robust economic system out of decisions regarding the economic policies in the country or region. A sustainable economic development ensures that all the three pillars of the economy: economy growth, economy efficiency and economic stability are achieved. The Neo-classical economic theory explains the economic sustainability is achieved through maximizing the human prosperity over the course of time (Stiglitz, 2013). The standard economic theory analyze the maximization of human welfare and prosperity through the efficient allocation of resources (Kaufman, 2010).

A formal economic analysis then raises the question of whether sustainability has any validity as an economic concept. According to standard economic theory, efficient resource allocation helps in achievement of human welfare (Streeck, 2011). Therefore, proper use of the resources considering the economic status of the country is the key towards sustainable economic development. A region can have a sustainable economic development when all the three pillars of its economy are optimised according to the economic demand of the nation. However, the economic system is limited due to environmental challenges. All these limitations can be overcome by making proper policies for sustainable economic development.

Activation innovation potential on the regional level

1.43 Innovation, science and technology

A significant growth in the global middle class has been observed in the recent years, and it is expected to double by the end of 2030 (Yueh, 2013). Most of the development in the middle class will occur in the developing countries. The rapid growth brings an increased demand for energy, and infrastructure for sustainable growth. This growing demand for energy and infrastructure is fulfilled by science, technology, and innovation. These are essential tools to meet the requirements of rapidly developing economies.

Science, technology and innovation (STI) has modernized the society and accelerated the growth of developing economies through proper implementation of STI knowledge in real life issues (Ertl et al., 2007). STI also brings prosperity and improves the quality of life of the society and bring reforms in the economic institutions (Gault, 2008). The global economic development is achieved through a technological revolution, and therefore it is called as knowledge of creation and production of both economically and socially sustainable products and services. This technological progress depends on the effectiveness of the educational system and also on the nature and environment of industries of a country. Science, technology, and innovation are three pillars of sustainable economic growth and development. They help to achieve short-term goals and make the pathway smooth for long-term sustainable economic development goals.

Innovation is a basic foundation which speeds up the productivity and improves the economy (Kingston, 2007). It helps to achieve goals of the sustainable economy both at the micro level and macro level. Competitiveness is also critical for a sustainable economic development, and it is again associated with innovation. All these interrelated concepts have a tremendous impact on the growth and development of a country. Innovation in industrial products and services is accompanied by cost reduction and increased productivity, which brings national prosperity. According to Kingston (2006), innovation is the gateway towards the success of the domestic market. It also opens new prospects for domestic products and services in the

competitive market. Innovation helps to deploy new products and improves the existing products and support the business models of a country gain economic advantage irrespective of the competitors (Bounfour et al., 2008). The previous literature has shown the importance of innovation in production and economic development, but there are still some discrepancies in the classification of innovation.

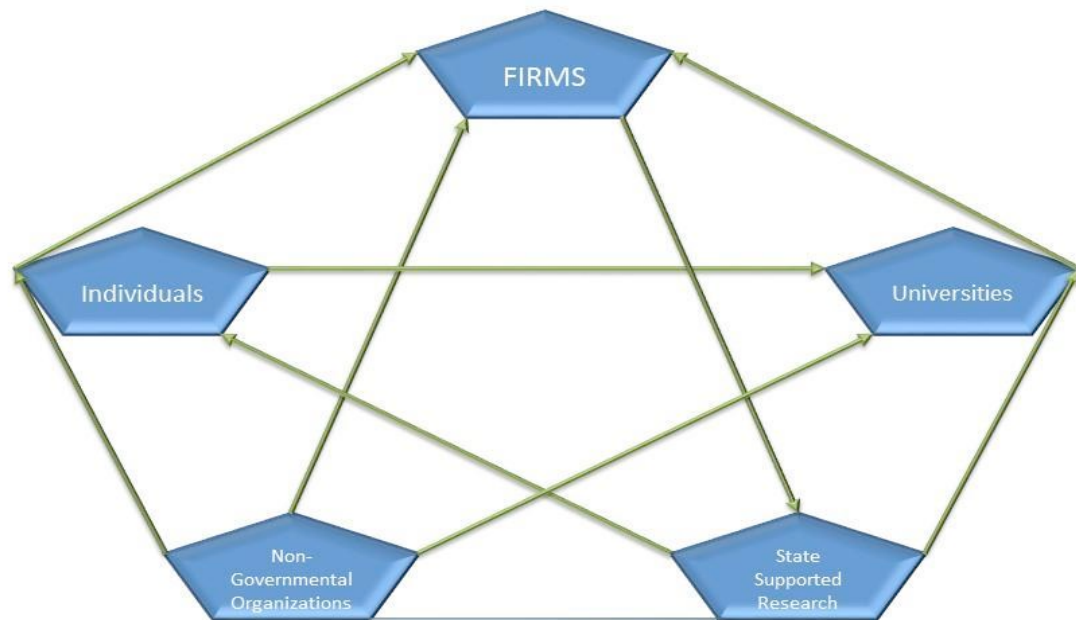


Figure 3: Source of Innovation(Schilling, 2005)

The word innovation in the modern sense is used by Schumpeter (Śledzik, 2013). According to Schumpeter, innovation is a creative destruction, which brings extravagant improvement. The idea of “creative destruction” highlights the obscurity in innovation. The new creative firms develop new products and better services, which destroy static firms. Therefore the innovations in business for the sake of economic gains must be properly managed to ensure its positive impact on the economy (Cerin, 2006). However, it was argued that innovation is not a random event. Innovation is the result of proper planning, R&D activities and sharing of information between qualified personnel. A number of factors are associated with economic innovation. All these factors including firms, individuals, universities, civil society and government sponsored research drive creative innovation and bring economic growth and social prosperity (See Figure 2.1). Therefore, countries should develop national innovation policies to implement innovative changes for economic development and

production of a new technological product, which facilitate the sustainable regional development.

The literature has shown the importance of science, technology, and innovation for economic stability and growth. The classical growth model shows that a sustainable economic development can be achieved by making technology-driven policies. Therefore, all the developing countries need to focus on science, research, information technologies and utilizing qualified human capital for the economic growth. The countries looking for economic boost need to improve the environment for the implementation of science-technology and innovation. The Figure 2.2 shows the impact of technological revolution on the economic development and all the economic actors and factors essential for sustainable economic development.

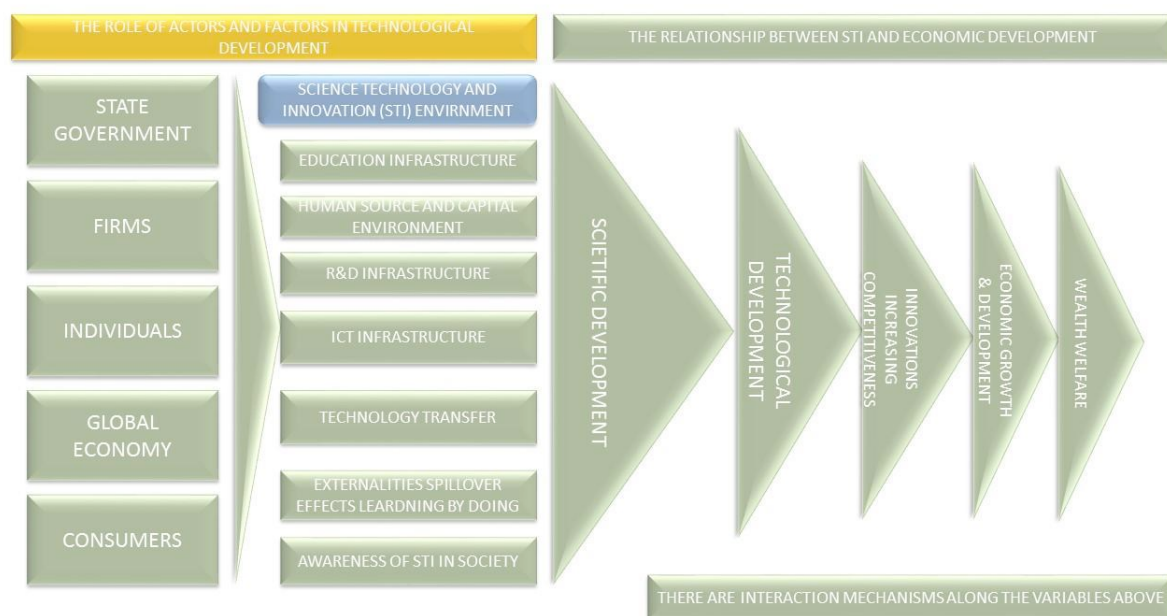


Figure 4: Impact of Technological Changes on Economic Growth Models(Şener and Sarıdoğan, 2011)

1.44 Triple Helix Model and Clusters

During the last decade, the world has seen one of the major economic and financial crisis in the history of humanity. Many companies in the United States became bankrupt. The European Union also faced the effects of economic crisis. The regional development and

economic growth were slowed down in the European Union. The economic revival of the industries and business posed a huge challenge for the member states of EU. All the member states came up with an idea of long-term sustainable economic development through “new industries”. These “new industries” are the key to economic stability and sustainability by implementing the scientific knowledge and research in all the business incubators around Europe. The success of new innovative industries relies on three major stakeholders: the public, industry, and the education sector. In order to achieve the objectives, a “Triple Helix” model is proposed aimed to integrate all the three stakeholders for sustainable economic growth, which is durable.

“Triple Helix” model is defined as a spiral model which holds the key points of interaction between the business, public sector, and the education system and capitalize on the social development through scientific knowledge (Etzkowitz, 2008, Etzkowitz, 2007, Dzisah, 2005). In Triple Helix model, three units university-business industry-government are shown as equal and interdependent in pertinent situations to take appropriate steps for the welfare of the society and the region. Recent literature has revealed the importance of university-business industry-government and their mutual relationship to enhance the productivity integrate innovation and form a knowledge-based scientific society (Etzkowitz et al., 2000, Carayannis and Campbell, 2009). The Figure 2.3 shows the interrelationship between main protagonists of “Triple Helix” model. The relationship between the three protagonists is expressed in terms of an innovative system of sustainable economic development.

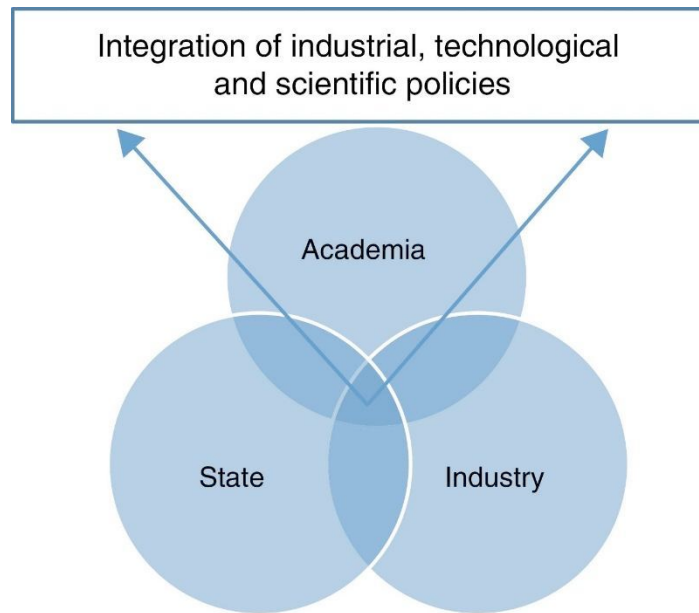


Figure 5: Triple Helix Model

The Triple Helix model forms hybrid interactions at the interface. Therefore, the Triple Helix model is based on the flow of knowledge in two directions (Sarpong et al., 2015). The Triple Helix model also reveals the important role institutions play in the development of sustainable economy. Institutions are the hub of knowledge and provide a constant source of innovation in the economic development which ultimately boosts the economic growth (Oyelaran-Oyeyinka and Lal, 2006). These institutions also play role incubators and significantly improves the industries and promoting sustainable economic development. These innovative clusters are closely related to each other and help in the development of reciprocal entities, which ultimately leads to the development of entrepreneurs and innovative leaders. An economic cluster is a bunch of cooperating companies, products, services and institutes (Ketels, 2009). The government has adopted the concept of clusters in the business to promote the social and regional development and growth of the economy (Arthurs et al., 2009). However, the progress of the cluster system is relatively slow in the countries of Africa and Asia. Therefore, it is important to understand the interactions among all the three stakeholders in the Triple Helix model. All the researchers have agreed to the role of regional bodies, business and public and private sector organizations in the development of a sustainable economy based on the Triple Helix model (Carayannis et al., 2012). This model also provides an operational strategy for a sustainable regional

development through the integration of knowledge based economy (Leydesdorff, 2012). Therefore, Triple Helix model emphasizes the role of all three actors in forming innovative policies for the regional and economic development.

1.45 Quadruple Innovation Helix Model

The Quadruple model forms a bridge between the society, knowledge sources and innovation (Carayannis et al., 2012). There are four main subsystems in the Quadruple Helix model all of these are interrelated to form a robust economic system. These subsystems include the following:

- *Education System:* These are mainly schools, colleges, Higher education systems, and universities.
- *Economic System:* The public and private sector industries, firms, banks and other organizations.
- *Political System:* This system form policies and laws for the state/country.
- *Civil Society:* These are the source of information which can be either media-based or cultural based.

In the Quadruple Helix Innovation model, innovation is the pivot point of all the dynamically integrated regional and sectoral ecosystems. These systems ensure sustainable economic development in the region. According to European Commission RIS3 guidelines, a fourth group is required in the classical Triple Helix model to ensure sustainable economic development at all the regional and social level. Innovation is the heart of Quadruple Helix model, and it is encouraged for the betterment of civil society. In this model, the users or citizens of a country are the main drivers of innovation. It was found that involvement of citizens in the innovation process leads to new innovative products, services and possible solution of economic problems (Afonso et al., 2010). This involvement of citizens in the economic innovations allows them to innovate new models of success and connect them with the industry, university and government (Arnkil et al., 2010). Moreover, the industry and the public sector would be allowed to utilize the economic innovations by citizens. The integration of Quadruple Helix model in the RIS3 helps the policy makers which open the gates for experiments and discoveries in the economic sector.

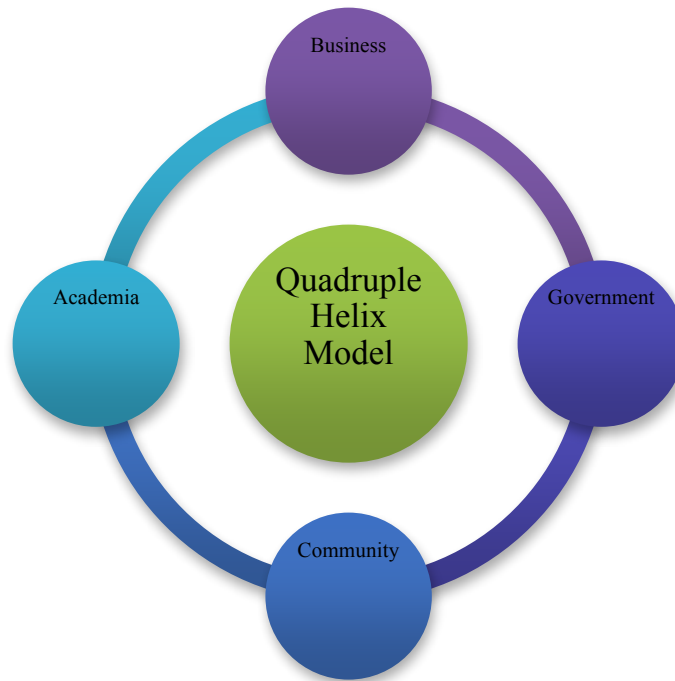


Figure 6: Quadruple Helix Model

According to European Commission (2012), the addition of users in the economic innovation allows developing user-centric innovation policies (Commission, 2012). The Quadruple Helix is an architectural model which brings four different sectors of a country with a focus on regional development improved economic status and operational capabilities. The efficacy and sustainability of Quadruple model are determined by inter-sectoral, intra-sectoral, inter-regional and intra-regional knowledge. The combination of these four perspectives provides an innovative ecosystem for sustainable regional development. It is important that policy maker should include the civil society in the regional RIS3 strategies (Renting and Wiskerke, 2010). Including all these elements pave the pathway for a fast, diverse, cheap, and resilient economic system. Therefore it is better to make policies according to four pillar Quadruple Helix model for a sustainable economic development.

1.46 Public-Private Partnerships (PPP)

After the economic crisis in the European Union, the key to economic growth and development relies on innovation-based industries and entrepreneurship. Without proper utilizing the innovation-based industries, sustainable economic growth is not possible in Europe to achieve its objective of 2020. The idea of public-private partnerships (PPP) was

first used in the United Kingdom (Forrer et al., 2010). The concept of PPP is a promising way to organize innovative organizations and firms for the betterment of economy and the general public (Hussain et al., 2012). The civil governments are now expanding the role of private firms in planning and delivering services and products to the public (Lonsdale, 2007). Literature has shown that governments have made contracts with the private sector firms for completing public services (Castelletti and Soncini-Sessa, 2007). In a public-private partnership, the mutual benefits and risks are predefined and managed properly to avoid any delay in the delivery of public services (Garvin and Bosso, 2008). PPPs are often long term contracts which enhance the skills and resources and helps in the development of sustainable economic infrastructure.

Considering the economic status of the European region, it is important to invest in the new technology to gain a competitive advantage which leads to the development of sustainable industries. In this way, European economy can keep pace with the global economy. The main question is how European organizations can foster creativity, innovation and globalization of its economy. The European SMEs relies on the external financing which is the main hurdle in the economic growth of Europe. The term and conditions of financing are constrained on the European economy. Public-private partnerships (PPPs) sets the framework for improving the lending capabilities of the financial institutions in Europe which ultimately supports the newly formed innovative firms and helps them to grow (Cagnin et al., 2012). The 2020 sustainable economic strategy of European Union also highlights the innovative financing provided by public-private partnerships.

According to European Commission PPPs are essential to developing a robust transEuropean network. The proposed public consultation should be started to enhance the development of PPP across Europe (Hodge and Greve, 2007). In the next year, a green paper was published by European Commission with an aim to support the development of PPP under a clean legal environment and global competition (Partnerships, 2004). According to this green paper, two different types of PPP projects were considered. These include a contractual and institutionalized project. However, the term of PPP is not legally well-defined in the community law of European Union and therefore it is continuously interpreted regarding public procurement (Ruggeberg and Schinkel, 2006)s. There are clear rules and legislation of

EU which impact the utilization of PPPs for sustainable economic development (Hall, 2009). These rules have played a significant role in the utilization of PPPs for developing a Trans-European Network in transport, telecommunication, and energy sector of the Member States (Mohr, 2004). During 2009, it was stressed that Public Private Partnerships (PPPs) could only help in delivering infrastructure projects for innovative and wide services.

There is a substantial difference in the social and economic status of the 27 EU member states. Therefore, every member state already has a variety of approaches to finance their SMEs (Medda et al., 2013). However, the most appropriate approach applied in the European Union states is PPPs. It is regarded as an important tool for attracting foreign financial investments and helps in the economic stability. Considering the importance of PPPs, around 1300 PPPs contracts worth €250 billion are signed by the EU states (Fernandes et al., 2016). The UK signs the majority of these contracts. However, the recent economic crisis also affected the PPPs, and the governments used these contracts to stimulate the economy of SMEs. The innovative financial tool provided by PPPs have significantly improved the financials of small firms. It has also ensured that SMEs efficiently utilize the limited budget. The efficiency of PPPs has opened the pathway for pooling private funds with public resources in all the economic and social infrastructures to deliver effective services and gain economic stability (Caldwell et al., 2017). PPPs can also improve small-scale business and various innovative products that can significantly boost the economy in future. This partnership mobilize the private funds into the real economy of a country and thus play a crucial role in a multidimensional financial system. The possible pathway for economic stability and sustainable development can be achieved through increased supportive role of government and adoption of initiatives such as PPPs.

1.47 Business Incubation

The combination of business development processes, infrastructure, labor force, support to the entrepreneurs and the nurturing the small and medium business enterprises in the early stage of its development form business incubators (Loeffler, 2007, Bergek and Norrman, 2008). In the academic literature, business incubation is defined in number of ways and every industry and policy makers adopt it according to their local needs and cultures. The National

Business Incubation Association provides a general definition of business incubators. It is defined as:

“Business incubators nurture the development of entrepreneurial companies, helping them survive and grow during the start-up period, when they are most vulnerable. A business incubator’s main goal is to produce successful firms that will leave the program financially viable and freestanding. The most common goals of incubation programs are creating jobs in a community, enhancing a community’s entrepreneurial climate, retaining businesses in a community, building or accelerating growth in a local industry, and diversifying local economies.” (Association, 1999)

There are several models of business incubators despite the efforts of developing a general definition. All the three stakeholders of triple helix including government, academic and industries are involved in the business incubation (Chandra, 2007). Mostly business incubators are classified on the bases of funding. These incubators are either non-profit or for profit. They are usually funded by public treasury for non-profit purposes (Cheng and Schaeffer, 2011). Business incubators are of two types:

- i. Business incubators funded by public resources and developed by the government agencies in the fields of science, technology, business parks and educational institutes.
- ii. Business incubators funded by private organizations and corporate enterprises (Aranha, 2003).

The rationale behind the public funded business incubators is their ability to address the market failures regarding the gaps and shortcomings to the small and medium enterprises. In the recent years a mixed model public private partnership incubator is introduced (Buche and Scillitoe, 2007). The table below shows the simplified typology of business incubator with its specialization sectors and funding sources.

Sector Specializations	Sources of funding	Main objectives
Technology incubators	Universities, Government and private sector	Innovation, spin-offs from universities, high tech or high

		growth and stimulation of entrepreneurships
R & D	Research institutes and Government sources	Research commercialization of businesses
Mixed Portfolio incubators	Government, public-private partnerships and other sources	Create new jobs, economic development, stimulation of entrepreneurship, and support to the industrial sector
Agri-business incubators	Government, NGOs and public- private partnerships	Commercialization, innovative practices, creating more jobs and increasing incomes of communities
Special purpose or Special business incubators	Government, public-private partnerships and NGOs	Innovative programs, skills improvements, women entrepreneurship, increasing employment and revenue of communities with a broad social, economic impact.

Table 1: Business Incubator Typology by sector, financing and goals, (Source: Lalkaka and Abetti, 1999).

The main hurdle for the authority is to decide when to start a new business or when to commercialize the findings of the economic research. Business incubators provide support to the newly formed small and medium enterprises in the area of technology to speed up their growth and to develop their identity in the competitive market so that they can survive and grow at an exponential rate (Bergek and Norrman, 2008, Cheng and Schaeffer, 2011). The incubators also improve the process of firm formation by properly organizing the education system and other various formal and informal aspects. The business incubators also hatch innovative ideas and provide opportunities for new business ventures with necessary physical and intangible resources (Becker and Gassmann, 2006). Government across of the world support entrepreneurship and consider business incubators as an important instrument to initiate innovation and mentor SMEs to create more feasible opportunities for sustainable economic development (Liming, 2004, Chandra and Medrano Silva, 2012).

The idea of business incubation is based on the support of newly developed business organizations that have the potential to become one of the leading economic ventures in the future. Business incubators can help these organizations, reduce their losses and create more opportunities for their development (Hamdani, 2006). The idea of business incubation was

first introduced in the United States with an aim to reuse the abandoned buildings and contribute to the local and regional sustainable development (Hackett and Dilts, 2004, Wiggins and Gibson, 2003). From there the idea of business incubation expanded to the UK and across the Europe and provided a framework for sustainable economic development. According to the World Bank, the developing countries implement incubators in their economic sectors such as business organizations to gain economic benefits and ensure a sustainable economic development (Scaramuzzi, 2002).

1.48 Evolution of Business Incubation

Three main trends are seen in the evolution of business incubation worldwide. These global trends led to strategic changes.

1.49 First Generation:

The primary trend is the development of a concept in the late 1950s and mid-1980s. Business incubation models were used as a tool to develop new companies without prior managerial and business skills (Bruneel et al., 2012). However, with the passage of time this model evolved. The business organizations identified a definite need of additional support to their business such as the knowledge base services, training of the employees and innovation in the firms. These requirements led to the formation of second-generation business incubation.

1.50 Second Generation:

The generation of active growth and development between mid-1980s to mid-1990s. This generation is also called as the generation of business support (Bruneel et al., 2012). The invention of latest information and communication technology allowed business to be more innovative and effective management of scarce resources. However, the business faced issues regarding expertise and capital access therefore the third generation of business incubation started which involves the networking of business organization to flow knowledge and expertise in the business sector.

1.51 Third Generation:

The current generation of business incubation in which a value and network chains of business organization are present. Entrepreneurs are the key in these business networks and

value chains (Bruneel et al., 2012). The constant pressure from competitive market force these entrepreneurs to embed their new innovative services and products to the existing value chains.

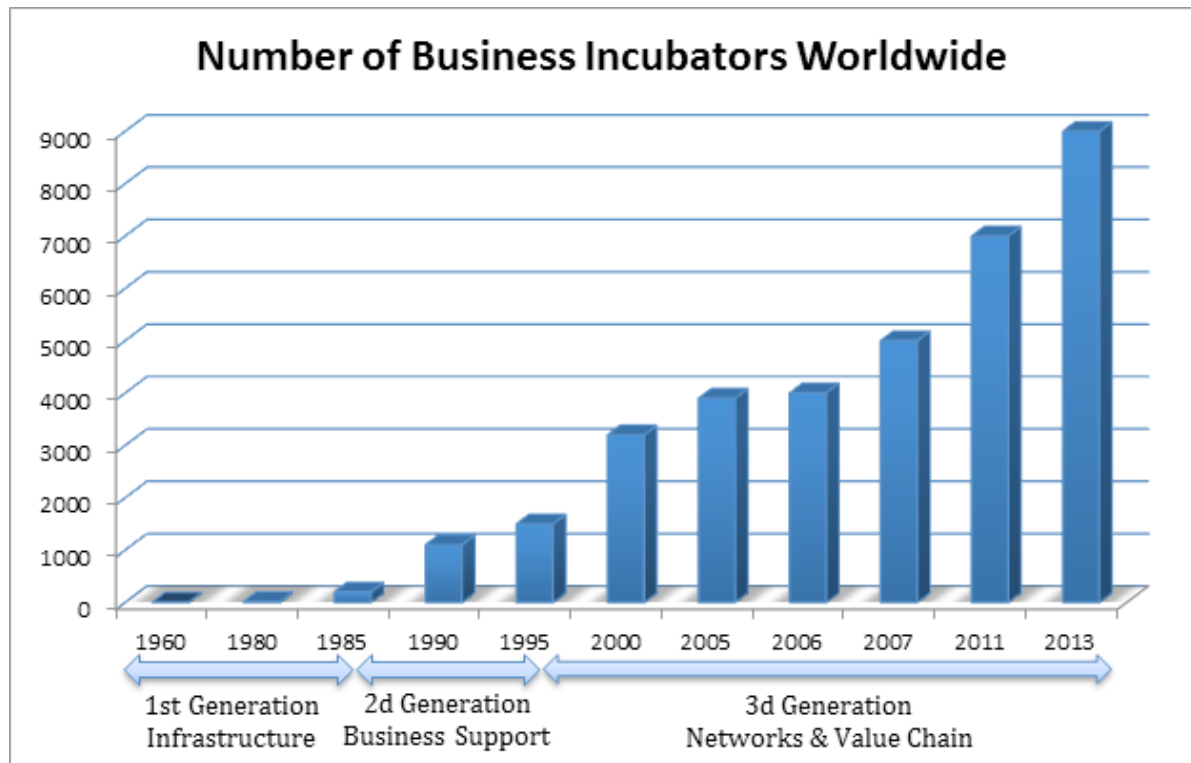


Figure 7: Number of Business Incubators Worldwide (Source: (Ryzhonkov, 2013))

Business incubators also imperative to develop new links between the research organizations and the business firms to increase mutual cooperation for a sustainable economic development. Business incubators provide necessary support to a young entrepreneur with scientific knowledge to develop a new innovative business management, which is based on the principles of innovation and leads to the development of the business.

Incubation Process

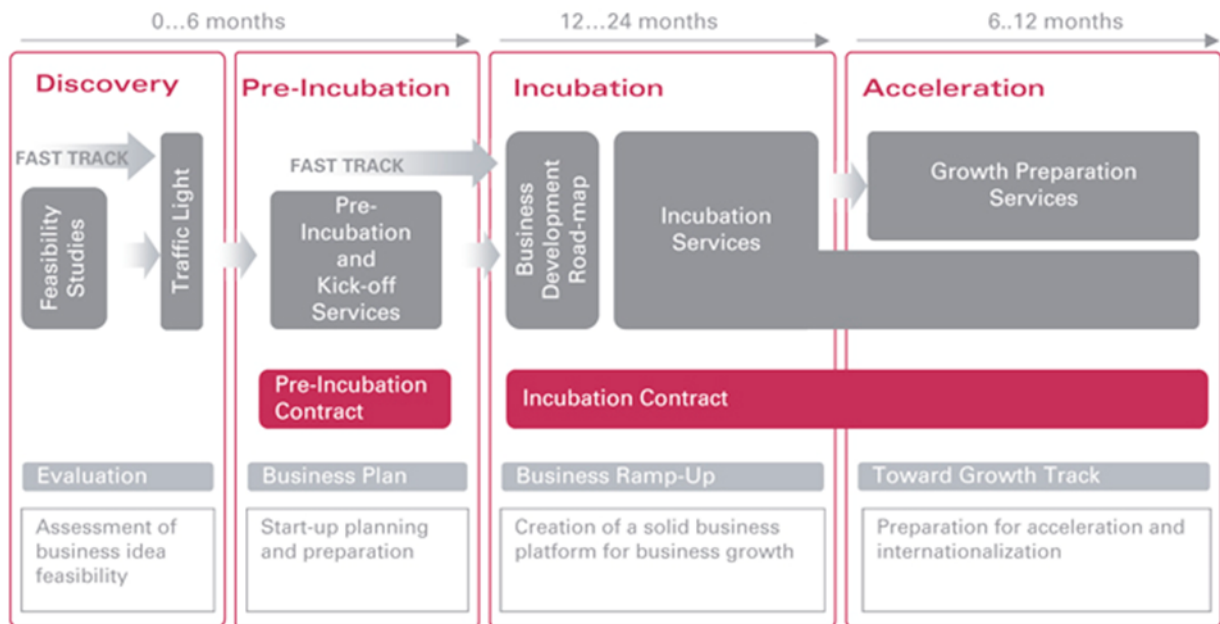


Figure 8: The Incubation Process (Source: (2012))

The interaction between three stakeholders' academia, industries and government help to develop a knowledge economy in business incubators. There are two main incubators the physical incubator and the virtual incubator where incubation can occur. In the virtual incubators, internet is used as a support tool for the enterprise, and it cannot be located within the enterprise due to limited space available for start-ups. The figure below shows various factors that affect the virtual business incubators.

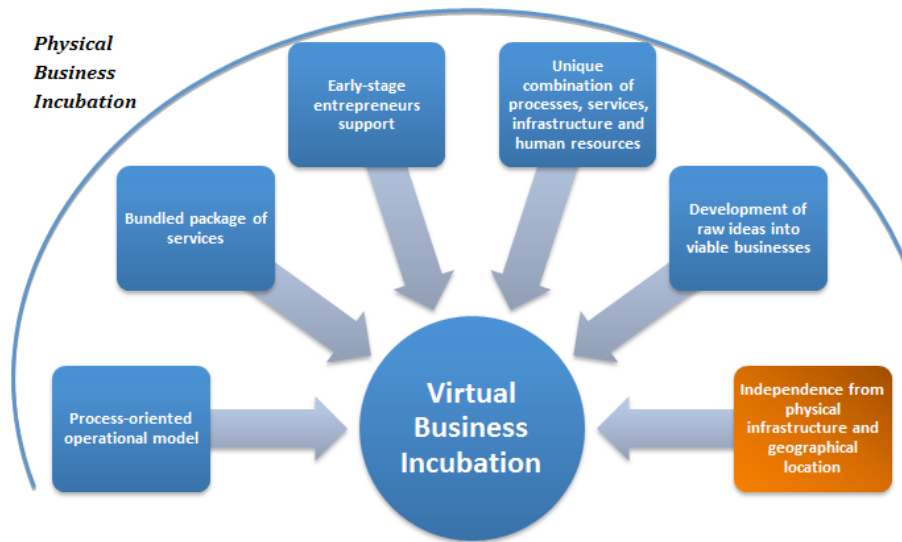


Figure 9: Factors influencing Virtual Business Incubators (Source: (Ryzhonkov, 2014b))

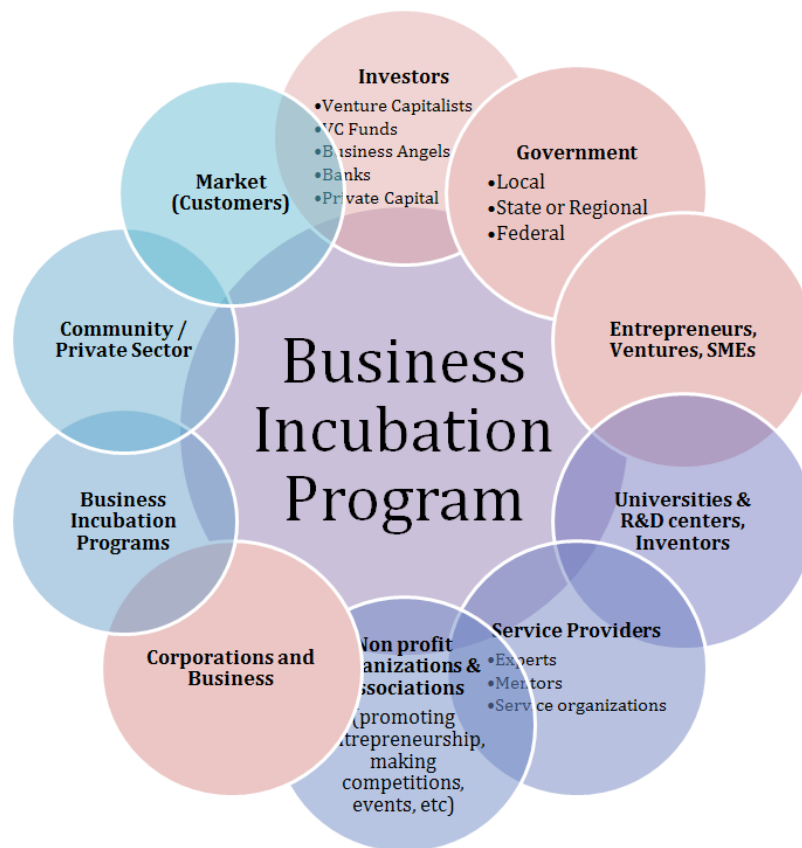


Figure 10: External Environment of Business Incubation Program (Source: (Ryzhonkov, 2014a))

In the recent years the concept of open innovation incubators is not researched and implemented in business enterprises (Thom, 2011). The above figure shows the external environment that is crucial for success of open innovation business incubators. In Georgia, Albania and Armenia these business incubators are still under development and their impact on the economic gains is negligible. Therefore, there is gap which needs to be filled by improving the business innovation skills of labor force and creating more entrepreneurs who have the knowledge to develop business incubator clusters. These clusters will later serve as the source of sustainable economic development.

1.52 Small and Medium Enterprises (SMEs)

Small and Medium Enterprises are the engines of sustainable economic growth and development with improved business structures and innovative business policies. In early industrial age, it was considered that investment in large enterprises is the key towards a sustainable economy. The past research has also focused on large investments in large enterprises. However, in the early 80s, a significant shift in the business investments is prominent. SMEs started to grow based on the principles of innovation. With the course of time, SMEs has gained substantial market share with its innovate products at a reasonable period and low cost as compared to the large enterprises (Schmiele and Rammer, 2008). The growth of SMEs is also associated with the increased level of education, improved business skills and increased entrepreneurial opportunities all over the world. The growth of SMEs is also correlated with the relaxation of labor laws and providing incentives to the talented workers. In the developing countries, the development of SMEs is the result of increased distance between the large enterprises and privatization of state-owned enterprises. Although SMEs are rapidly established in the developed countries with robust economic structures, but the transitioning economies faced some problems, and it is argued that SMEs have a high bankruptcy in these countries (Musteen et al., 2014). The financial experts blame SMEs as the cause of downsizing in different organizations. SMEs are also criticized for the poor quality of products with a short life. However, in the developed countries, SMEs growth is directly related to the business cycles. When the economy is stable and growing exponentially, the number of SMEs increase and new business opportunities are created. This

exponential growth of SMEs give an advantage to the domestic market and leads to a sustainable development of a region.

The recent economic crisis has made European Union member states to think rationally and focus on SMEs for a sustainable economic development. One of a study reveals that more than 20.7 million Small and Medium Enterprises are operational in the European Union which accounts for 99% of the business ventures and serve as a backbone to the European economy (Mogaka, 2013). These SMEs also provide employment opportunities for the talented youth of European region and play a vital role in the discovery of innovating products (Braunerhjelm, 2010). It is important to note that most of these SMEs are very small scale enterprises comprising of fewer than ten employees. According to a report, these micro firms provide jobs to two people on average (Mrva and Stachová, 2014). It was also stated in the report that the SMEs employing between 10-49 employees accounts for 6.5% of total SMEs in the European Union, and the medium-sized SMEs which employ between 50-249 employees are very low about 1.1% (Mrva and Stachová, 2014). After careful consideration of the global financial crisis, the European Union took several steps through SMEs towards a dynamic knowledge-based economy to gain a competitive advantage in the world market. The Lisbon strategy was the beginning of new era in Europe towards sustainable economic development. The aim of Lisbon strategy is to provide better job opportunities and social cohesion in the region to ensure sustainable economic development in the region (Royuela et al., 2008). However, the Lisbon strategy did not make any precautionary steps to avoid the economic crisis. This lead to the launch of “Europe 2020 Strategy for smart, sustainable and inclusive growth”. The purpose of Europe 2020 strategy is to provide a high level of employment and increased social cohesion through SMEs to ensure sustainable economic development in the region (Zeitlin, 2010). Therefore European Commission also took the initiative to develop a single market for Europe to accommodate SMEs better.

SMEs need to capitalize on the opportunities of sustainability. If these opportunities are ignored, it may narrow the vision of economic development, and small firms fail to operate in the globally competitive marketplace. Therefore it is important to expand on the vision of sustainability in planning the SMEs (Midelfart-Knarvik et al., 2000, Ottaviano and Puga, 1998). SMEs are crucial for properly managing the social resources and environmental

limitations and helps to gain sustainable development in the region. The development of an enterprise strategy should incorporate the emerging multidimensional ideas to form solid sustainable business enterprises (Rainey, 2010). The proactive situational analysis helps to form a sound strategic plan which grows with the passage of time (Heath, 2002). There are several advantages of recognizing the need for sustainability in the business environment. According to one study, in a multidimensional business environment, people work differently and develop an innovative environment and move forward with the idea of a sustainable world in the future. In this practice, they develop skills of utilizing distinctive energy sources. (Raynard and Forstater, 2002) .

- Enhancing the speed of technological innovations
- Globalized Communication
- Interlinked and wide supply chains
- Changing global marketplaces

In addition to these one important to consider is that almost 80% global business firms are thought to be SMEs and have less than 250 employees (Observer, 2000). In the European Union, almost 99% business firms are SMEs (Muller et al., 2015). The total world production of SMEs is around 70% (Muller et al., 2015). Different scenarios predict the factors that can enhance the sustainable growth of business firms. These scenarios include

1. Adapting to the prevailing social and environmental challenges
2. Bringing two billion potential consumers to the global marketplace (Prahalad and Hammond, 2002).

In almost all the industries, one essential element for planning managers is to consider sustainability in the internal business operations, stakeholders and investors relations and customer values (Sautter and Leisen, 1999). One of the studies has revealed that global multinational firms are strongly moving towards sustainable growth and their progress is reflected through different avenues (Barkemeyer et al., 2014). Various indicators show the reality of sustainable enterprises at the global level.

The development of different forums such as the World Business Council for Sustainable Development (WBCSD) (Giddings et al., 2002), and Sustainable Enterprise Academy (SEA)

(Wheeler et al., 2005) which constantly provide training to the leaders of SMEs about how to achieve sustainability in the enterprise.

- The economic performance of different enterprises is measured and monitored through Dow Jones Sustainability Index (DJSI) which enables the enterprises to compare and enhance their sustainability according to the market needs.
- The online platforms such as websites and paid advertisements constantly report the sustainability efforts made globally.
- The Global Reporting Initiative (GRI) guides the business enterprise to prepare their sustainability reports.

The critical factor for the success of SMEs sustainability is the resilience of enterprise to capitalize and configure the internal and external competencies to adapt the changing environment (Joa ~o S. Teodoro, 2014). According to a study, these capabilities of an organization can be determined at individual and organizational level (Li et al., 2006). However, the large organizations face a hurdle in efficient management of their innovation and sustainability as compared to SMEs.

One of the major hurdles is the disruptive changes in the business operations and business models despite having sufficient human capital assets (MILLENNIUMECOSYSTEMAS, 2003). The resources of an organization determine its capacity to face the challenges of disruptive changes. With the passage of time, a firm gets confidence in its business models and move in the right direction of sustainable economic development. The important building blocks of sustainability are resources, processes, and values. The small firms have an advantage over large firms regarding leveraging their entrepreneurial innovation and organizational changes (Stam et al., 2014). Therefore SMEs are more successful to achieve the target of sustainable economic development.

1.53 Development of SMEs

SMEs serve as a backbone to the economy whether registered or unregistered it provide employment and value-added returns. SMEs boost the economy in a longer run and have a significant impact on the sustainable development. Some features of SMEs are following:

- SMEs increase the capital income and speed up the growth of GDP.

- SMEs whether registered or unregistered make 60-70% contribution in GDP of a country (Caner, 2010).
- The growth of GDP stabilizes the economy of a country.

There are some factors which decide the development of SMEs in a country. These factors are classified into four broad categories.

1. Macroeconomic Factors
2. Environmental Factors
3. Regional Factors
4. Growth Factors

The main factor which determines the development and growth of SMEs are the financial support of the governments. The procurement department ensures the development of registered SMEs. When there is low inflation economy in a country, the registered SMEs grows exponentially. This shows the economic policies and condition of a country plays a vital role in the development and management of SMEs (Şener and Sarıdoğan, 2011). In addition to the economic policies, stability in the exchange rate is also vital to make contracts with stable currencies around the world. The most important factor is the level and quality of education in a country. When the children and youth are provided with a high level of vocational training and education, they actively participate in the development and success of registered SMEs. In the transitioning economies, SMEs are operated by low skilled labors which negatively affects the productivity of SMEs. It is also seen that SMEs grows upon access to the credit and flow of working capital. The access to credit encourage registered SMEs and discourage unregistered SMEs. The most important factor which decides the development of SMEs in a country is the interest rate of loans provided by the local banks. Moreover, the premium obtained from black market also decides the development of SMEs.

When an enterprise enters into a competitive market, it faces challenges from all dimensions. SMEs have to face numerous challenges including the start-up cost, registration cost, license fees, and the processing time. All these factors decide the development of a successful SMEs. The survival of SMEs relies on the low cost of property rights and the contract enforcement (Caner, 2010). If these costs are high, the SMEs will not get registered and operate as an unregistered firm which is not beneficial for the sustainable economic development.

According to a survey conducted by the World Bank in the developing countries, competition with the large enterprises is the major risk for the survival of SMEs. The other major factor which is necessary for the development and survival of SMEs is a fair judicial system of a country (Caner, 2010). When a fair judicial system exists in a state, the menace of corruption can be confronted which is a burden on the survival of SMEs. The regulatory environment is another factor which contributes to the success of SMEs. The labour laws are also important because hiring the right workers for performing the operations of SMEs determine its fate. If a country has strict labour laws, SMEs employ low-skilled workers which lead to poor quality of products and services.

The development of SMEs is also determined by regional factors such as geographical location, demographics, and regional environment. If an SMEs is developed in a region which has maximum opportunities for growth, it will grow and prosper over the course of time. Demographic conditions of the region also play a crucial role in the success of SMEs. The regions of ethnic fractionalizations are not suitable for SMEs as it will cause political violence and instability. In addition to demography, the religion also plays a vital role in the development and survival of SMEs. This can be seen in Muslim countries where the number of SMEs operate under the unregistered economy, and therefore these SMEs does not make any significant contribution to the economic stability. The legal system of a country also helps in the development and growth of SMEs. In the European Union, it has been seen that French and Socialist law provide a competitive institutional advantage to SMEs and helps them to grow (Caner, 2010). The policies of government is also a deciding factor for the development and growth of SMEs. When these policies are aimed to reduce the cost of transactions SMEs develop and contribute to the economic stability of a country. These policies should emphasise on creating external opportunities for domestic SMEs to gain a competitive advantage in the global market. In addition to these government can also make effective policies to support SMEs in the long run through improved education, vocational training and creating clusters of SMEs.

The growth of SMEs is as important as the development of a sustainable economy. The previous literature has shown that SMEs face the challenges of bankruptcy in the early phase of its development (Ackah and Vuvor, 2011). Therefore, SMEs have a very low survival rate

in the early phase. During the first year of its development, SMEs seeks sufficient funding to survive. The main financial hurdle is that SMEs are not self-financed firms and requires external sponsorships. The banking sector of a country provides the sponsorship and necessary funding to SMEs at a fair interest rate. The development of SMEs in a new horizon will be successful only when they are financed on easy terms. Besides financing the operational infrastructure is also vital for the development and growth of SMEs. Unlike large enterprises, SMEs does not provide essential services privately because of limited financing. Another major factor is the political stability which persuades the investors to invest in SMEs and provide the opportunity to grow. A safe business environment also increases the growth opportunities for SMEs. If the transaction taxes are high in a country, it will become difficult for SMEs to grow. Therefore, countries fail to seize the opportunity for economic stability based on SMEs.

1.54 SMEs and Sustainable Regional Development

“Think global, act local” perfectly describe the term of sustainable development with an impact on the economic policies, environmental policies, domestic policies and the regional strategies (While et al., 2010). Sustainable development has multiple dimensions such as economic, social, environmental, cultural and educational setup of a region. To achieve a sustainable regional development, all these have to grow and sustain in diverse and rapidly changing global scenarios. Recently the success of SMEs has made it an essential element of regional development and economic stability. Research has shown that countries with high number of SMEs are stable and have better living standards as compared to those countries where fewer SMEs are operational. These findings suggest an expanded role of SMEs in the economic and social development of a region (Rinne et al., 2013). The presence of SMEs also give a competitive advantage to a region and serve as a powerhouse of social development. SMEs is beneficial for the whole region as these enterprises use the local resources and provide significant profit to the domestic market (Mourougane, 2012). In this way, SMEs helps in the development of the sustainable economic region. SMEs emphasize on innovation and introduction of latest technology in the development of new products and services which provide a competitive advantage and opportunities for sustainable growth.

The sustainable regional development depends on the size of SMEs. The past decade has shown the vital role of SMEs in the sustainable regional development. SMEs have a major role in the sustainable development of developing countries (Moore and Manring, 2009). SMEs can significantly eliminate poverty in the developing regions and reform the economic system on the principles of innovation which leads to sustainable growth. It also improves the economic environment of a region and brings new foreign investments. In the developing regions, the income and capital are concentrated in the large enterprises which do not stabilize the economy and pose constant threats to the economy. Small firms are unable to utilize the major capital of a region and SMEs are squeezed out of the region. The developing regions have to address the issues if they want to exploit the benefits of SMEs through poverty reduction and sustainable regional development (OECD, 2004).

1.55 Contribution of SMEs to the economy

In European Union, SMEs are the key to devise a sustainable enterprise policy. The member states consider SMEs and business enterprises as the main regulator of sustainable economic growth, innovation in enterprises, job creation and social sustainability in European Union. The importance of small businesses for the growth of economy cannot be ignored. In the United States, small businesses drive the economic growth and create new jobs. SMEs with 250 employees constantly provide jobs to the workforce of the nation. One of the study shows the significant contribution of SMEs to the economy in terms of increasing employment by 60 to 80%. In addition to the job creation SMEs are also beneficial for socio-economic development of a country (Levy et al., 1999). The main advantage to the SMEs over large business is that they can easily adapt to the evolving marketplace and can work at a flexible conditions. The capital costs linked with the job creation in SMEs is low as compared to the large business enterprises and large number of labor force is associated with the SMEs. These small enterprises provide employment to skilled workforce, stabilize their income and ultimately helps in economic growth (Liedholm and Mead, 1987).

It is important for the government to recognize the role of SMEs in the national economy and provide support to newly developing SMEs. In this way a country can form a clusters of SMEs which serves as the source of economic development. Edmiston (2007), describe the SMEs as the organizations with less than 500 employees (Edmiston, 2007). More than half of

the labor force of a country is employed in the SMEs and they increase the output of private sectors. The definition of SMEs differ across the world, in New Zealand SMEs are the organization which employee less than twenty employees and make up 39% of the total value-added output of the country (Steenkamp and Kashyap, 2010). However, in the last decade the awareness about the significant contribution of small medium enterprises in the economic development of a country has increased. Therefore, for developing economies in the European Union it is important to recognize the role of SMEs in economic development to enhance the economic growth and improves the employability of the skilled workforce.

1.56 Support for SMEs

Business is a war in which corporate buyouts is common. In the modern world, developing countries of Asia, Africa, Europe, and Latin America are struggling to develop SMEs. However, in the developed countries such as China, USA, Japan, Germany a significant progress has been made to support SMEs and get economic benefits. The development and support of SMEs require a politically stable region to gain the trust of investors and provide the opportunity for SMEs to grow. In some countries where the political system is not stable, SMEs did not grow. The war-torn countries of Africa such as Sudan, Liberia, and others are a clear example of SMEs failure due to no virtual support from the politicians (Hilson, 2009). Small, medium enterprises comprise of an employer, customer, and the suppliers along with the innovation of workforce; these small businesses provide the much-needed entrepreneurship to the economic stability and development (Bank, 2005). In the developed member's states of European Union, there are clear policies and programs to support the establishment and growth of SMEs. These policies ensure improved quality of life for all the citizens.

To ensure business-friendly environment in European nations, initially, the European Commission defined SMEs and classified it according to two cumulative criteria including the staff headcount and turnover of the employees. In June 2008, the European Commission adopted the Small Business Act for Europe which aims to provide political support to SMEs. This act also states that entrepreneurship approach will be implemented in all the SMEs and “think small first” principle will be followed. The Small Business Act coordinate activities of SMEs in the European Union member states and ensure that policies of EU are SME

friendly. The SBA model builds on the Lisbon Summit which failed to deliver because of several flaws such as the open method of coordination and lack of strength to adapt the changing business environment. However, SBA provided support to SMEs and ensured that cost of registering companies comply with the economic needs in the European Union in the countries such as Belgium, Denmark, Estonia, France, Hungary, Portugal, Romania, Slovenia and the UK. The SBA is also monitored regularly to ensure that SMEs are growing at an exponential rate in the European countries.

1.57 Specific Areas for SMEs in the European Union

There are specific area for SMEs support and growth in the European Union and legislative measures regulate these, the General Block Exemption Regulation on State Aid (GBER), the Directive on reduced VAT rates, in addition to these the legislative proposals are also presented to simplify the VAT invoicing rules, and implementing E-invoicing in SMEs across the EU (Radicchio et al., 2003). The better regulation of SMEs in EU ensure that all the issues related to SMEs are better resolved to avoid any hurdle in the pathway of economic development. One important step towards this direction is the appointment of an SME Envoy in the European Commission to defend the growth and development of SMEs at EU and highlight the contribution of SMEs to the economic development of the region along with the educational policies and domestic market (Bateman, 2000).

It is important to develop effective SME feedback mechanisms, which ensure that all the stakeholders such as Euro chambers, Business Europe and UEAPME all support SMEs in specific areas and enables it to grow. It is also argued that European Union Member States should expand on programs such as Enterprise Experience Programs to remove the barriers between the administration and business. The European Union has adapted its policies to accommodate better SMEs in the Member States which are the key towards economic development in the modern world. EU has also developed specific SME practical toolkits to monitor the performance of SMEs in the European Union constantly. EU has also taken some non-legislative measures which support the access of SMEs to Public Procurements, improves female entrepreneurship and ease the access of SMEs to the globally growing markets of China, India and other countries. The last step taken by EU is the development of

Eco-management and adult scheme (EMAS), these two enabled the registration of clusters of SMEs at a significantly low cost (Jeucken, 2010).

1.58 Financial Support to SMEs in EU programs

After considering the current trend in SMEs across the world. The European Commission has developed programs such as research and development programs to support the innovation and growth in SMEs. The below chart shows the Competitiveness Innovation Program in European Union Member States to support SMEs.

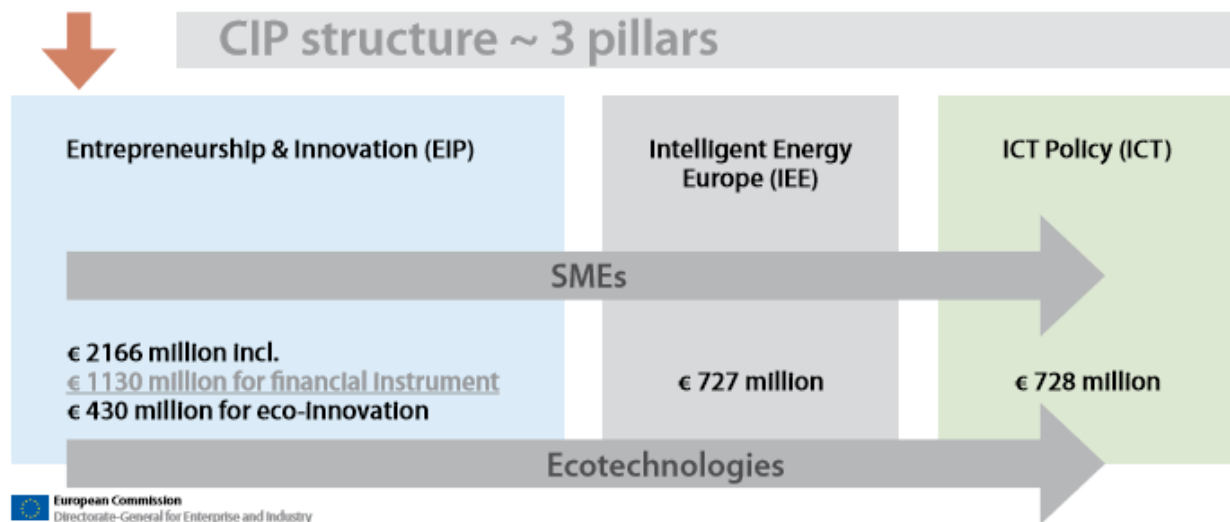


Figure 11: CIP Structure (Source: (Lopriore, 2009))

These CIP are crucial for SMEs and helps to achieve the targets of sustainable economic development through exchange of best practices among the EU Member States, financing the European Entrepreneurship Awards, maintaining Enterprise Europe Network (EEN), providing financial support to SMEs through European Investment Fund (EIF). However, there is a need to increase the financial support to SMEs in order to meet the global requirement of economic development. The financial support can be increase through reviving the current support plan of the Member States. In European Union, the structural funds 2007-2013 allocate 27 billion euros to supporting SMEs. The major share of these funds are utilized in improving the technology and innovation and promoting eco-friendly SMEs. However despite these allocated funds, countries such as Denmark, Slovenia, Austria,

Finland, Sweden and the UK are expected to spend 20% more than the structural funds budget by EU. The Below figure shows these figures of financial support to SMEs in European Union.

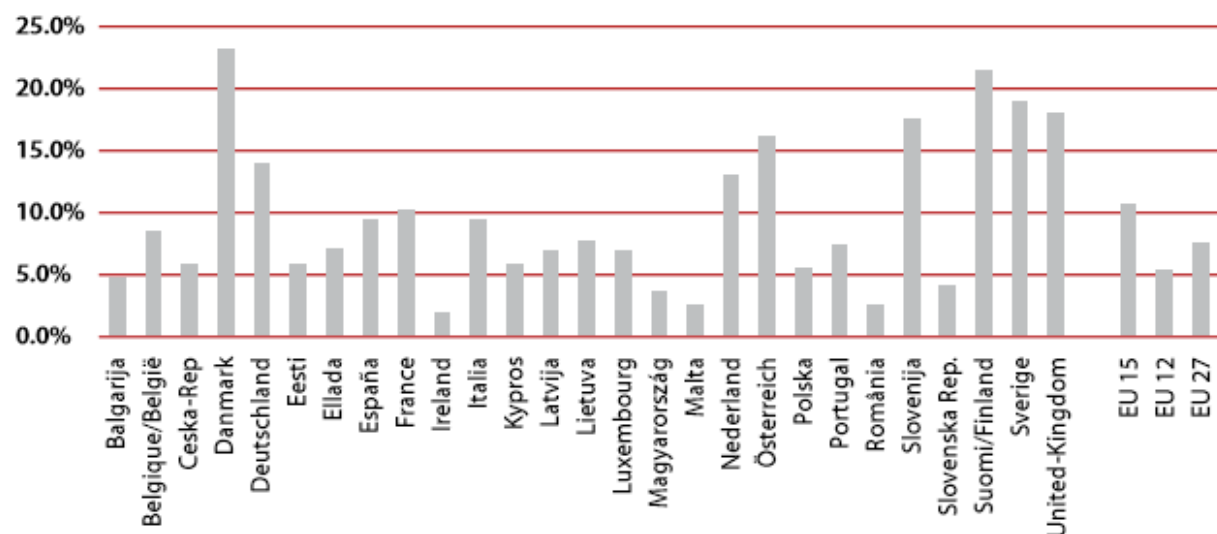


Figure 12: Percentage of structural funds allocated to SMEs in 2007-2013 (Source: (Lopriore, 2009))

1.59 SMEs and Job creation in Europe

SMEs serve as a tool towards sustainable economic development through rapid industrialization of a country. One of the study reveals that SMEs have a substantial role in the income distribution, employment, and efficient utilization of resources. According to a report of United Nations Industrial Development Organization UNIDO, the developing countries can alleviate poverty and inequality through successful economic liberalization and democratization of its industries. It is important to note that small and medium enterprises play a vital role in sustainable development (Fida, 2008). There are wide opportunities for labor force in the SMEs as compared to large business enterprises. (Birch, 1979). In this way SMEs play a vital role by providing more opportunities for productive employment, generation of high income for the labor force and reducing poverty. Several empirical studies have shown the significant contribution of SME by increasing GDP by 55% and employment rate by 65% in the high income countries. A similar contribution of SMEs is prominent in low income countries, where SMEs contribute 60% in GDP and 70% in employment (Fida,

2008). One another study revealed that more than 85% jobs are created in SMEs and these jobs improves the economic conditions of a country (De Kok et al., 2011). In this study several countries including 27 EU Member states were studies and it was found that SMEs are the main job providers in these countries. According to European commission report, more than of the employees of SME sectors are employed in private sectors (Dusonchet and Telaretti, 2010). However, the statistics obtained from Central and Eastern Europe reveals small contribution of SMEs in job creation and it can be associated with the political instability in these countries. One of the study shows less than 50% contribution of SMEs in job creation in the 12 BSEC countries as shown in the table below.

Country	2010
Turkey	77.9
Romania	80.1
Ukraine	60.4
Greece	60.0
Moldova	59.0
Bulgaria	47.4
Serbia	43.2
Armenia	42.2
Georgia	37.0
Russia	35.5
Azerbaijan	25.0
Albania	21.8

Table 2: Share of SME Labor in Total Labor Force in BSEC Countries (Source: (Entrepreneurship)

Empirical Research: Regional Questions

1.60 Research Objective and Questions

Vocational education and training is a powerful tool in developing a highly sustainable economy in the developing countries of Europe such as Georgia, Albania, and Armenia. It

enhances the skills of the citizens and equips them with advanced skills. VET also develops the skills of the labor force which are essential for the increasing the productivity and harmonizing national objectives of sustainable delivery with international standards. The purpose of this study was to determine the potential impact of Austrian VET and SMEs on the sustainable economic development of Georgia, Albania, and Armenia. In order to achieve the research objective, the following research questions were developed:

1. What exactly degree do a gathering of specialists concur with articulations that reflect commitments vocational and technical education projects can make to the future social-financial advancement in Georgia, Albania, and Armenia?
2. What is the impact of Austrian VET on the innovation and productivity of SMEs?
3. How Austrian VET enhance the GDP growth of these countries?

1.61 South Caucasus: Georgia an Overview

Georgia is a Transcaucasia country located at the eastern end of Black Sea near the Greater Caucasus Mountains. Russia, Azerbaijan, Armenia, and Turkey are the neighbors of Georgia (Sunny, 1996). There are three ethnic enclaves in Georgia including Abkhazia, Ajaria, and South Ossetia. Tbilisi is the capital of Georgia. It was a powerful kingdom during the medieval era. During the Persian and Turkish domination, it was added to the Russian Empire in the 19th century. In 1936, Georgia was the part of USSR and remained so until the downfall of Soviet Union. During this period the Georgian economy was diversified to match the international requirements. In 1989, Georgia declared itself as a sovereign state, the independence day of Georgia is April 9, 1991 (Slider, 1991).

1.62 Human resources

The Georgian demography is the mixture and successions of Caucasus region. The name Georgians are obtained from Persian name of Gore who lived in this region during the Persian reign. Ethnically seven-tenth of the population is Georgian, and the remaining includes Armenians, Russians, Azerbaijanis, Greeks, Abkhazians and other minorities.

1.63 Economic Status

The main strongholds of Georgian economy are agriculture. However, there is also an industrial base in Georgia. The major contributor of Gross Domestic Production is agriculture and one-fourth of labors are associated with the agriculture industry. One-fifth of the workforce is associated with industries. The major risk to the Georgian economy is the political instability (Heritage, 2017). After the independence, its economy contracted significantly, and the economic ties which were built in the former Soviet Union were lost. The key links in the economic growth of Georgia were sabotaged or blocked. In all these tough circumstances, Georgia vowed to transform its economy into a well-organized economy with state enterprises and reformed banking system. The currency of Georgia is lari which is issued by the National Bank of Georgia, the central bank. The major financial hubs of Georgia are located in Tbilisi (Silagadze, 2013).

1.64 Agriculture

The agricultural land of Georgia is situated on steep mountains in patches. Working on these areas is difficult. However, despite these difficulties the crops of tea, citrus fruits compensate the economic gains. During the Soviet Union era, collective farms and state farms were introduced which altered the landowning and working. In the recent years, modern equipment is supplied to private garden owners under a capital investment program to enhance the agricultural production. This program also finances the mineral fertilizers and herbicides for agriculture. In Georgian agriculture, the most loved form is winemaking which is specialized in the production of over 500 varieties of grape wine (Khitarishvili). 320,000 acres of Georgian fertile land is covered with orchards. The variety of fruits produced in Georgia differs from one area to the other due to the difference in soil quality and climate change. Georgian agriculture also produces grains and wheat, but in a low quantity which is insufficient to fulfill the domestic demands. Therefore, Georgia imports wheat. In the suburbs, the business of vegetables and melons has significantly increased. Livestock is also raised in different seasons. Sheep, goats, pigs, poultry, and bees are important livestock of Georgia. In addition to these whitefish is the centerpiece of Black Sea fisheries.

1.65 Industry

The base of industrialization in Georgia relies on its fuel and power generation capacity. In the recent years, Georgia made significant progress in the construction of hydroelectric power stations and coal powered stations. All these power stations forms a single power system which forms a larger Transcaucasian system. The oldest industry of mineral extraction in Georgia is coal industry which extracts coal from Tqvarch'eli and Akhalts'ikhe sites. There are also industries of manganese and nonmetallic minerals in Georgia which are developed by the Soviet Union. The Zestap'oni center of minerals is the second important metallurgical center in the region. The machine industry of Georgia produces electric railway locomotives, heavy vehicles, and different earth-moving equipment. This industry is also specialized in tea-gathering machines and anti hail devices. Chemical industry produces mineral fertilizers. It also produces pharmaceutical products and synthetic materials. Georgia also produces cotton, wool, and silk fibers for high-quality clothing. The main products of Georgian food industry include dessert wines and tea.

1.66 Resources

The natural resources of Georgia include coal deposits, petroleum and different varieties of peat and marble. High-quality manganese deposits of Chiat'ura are world renowned. In addition to these resources Georgia is also blessed with considerable water resources. The deepest rivers for the hydro-power plant is Rioni and its tributaries. The Western Rivers form the three fourth of its hydroelectricity needs. Oil deposits of Georgia are under the Black Sea situated near Batumi and Poti.

1.67 Transportation

There is a highly dense transportation system in Georgia. The freights are carried by truck and railways. There is a network of rail between Tbilisi and Batumi in Black sea and Caspian region. There are seaports in Batumi, Poti, and Sokhumi which are imperative for the economic growth of Georgia. The International airport is situated in Tbilisi.

1.68 Economic Restructuring and Macroeconomic situation

In the last decade, Georgia has implemented several macroeconomic reforms to enhance the economic growth of the country. These reforms are focused on improvements in the overall business environment, increasing foreign direct investment and poverty reduction. These reforms have significantly increased the foreign direct investment and expanded the business enterprises. The Georgian government is looking to improve the fiscal policies, make institutions transparent and reducing the corruption by democratizing the citizens (Mitchell, 2009). Authorities consider all these elements necessary for sustainable economic development.

In 2007, these reforms enabled Georgia to reduce poverty and increase the per capita income. The significant rise of revenue is estimated to be over USD 2300. The pathway of economic sustainability is also evident from the successful conclusion of IMF program in March 2006. Georgia is also looking to pursue liberal economic policies which are focused on reducing the role of government and empowering the citizens. Therefore, the government has made necessary efforts to mainstream private sector companies. However, after the electoral cycle, the government is spending more on the pensions programs, salaries and social programs to improve the economic condition of the country. In addition to these, Georgia has also increased spending on its defense budget. The aim of Georgia is to present itself as an attractive hub for international business activities. In light of these reforms, the World Bank has rated Georgia as the leading economic reformer towards sustainable economic development. This is evident from significant improvement in business ventures from 137th place in 2004 to 37th place in 2006 (Dutta). These ranking rose up to 21st place in 2008 and 15th place in 2009. A similar report from European Bank shows that Georgia is in line with European Bank for Reconstruction and Development (EBRD). The major improvements in the Georgian economy in between 2004- 2008 are described below.

1.69 Growth in GDP

The Gross domestic product (GDP) growth rate has increased based on foreign inflows. There is a sustainable growth of GDP based on increased internal demands and increased

foreign direct investment. The GDP growth of Georgia was 9.7% in 2006, and it increased to 12.5% in 2007. This shows significant improvement in the Georgian economy.

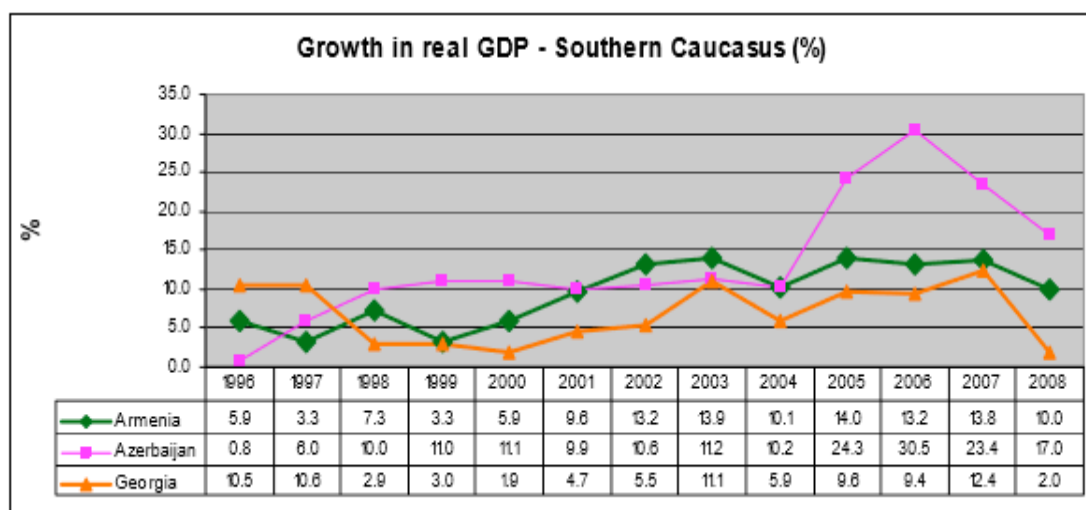


Figure 13: Real GDP growth rates in the Southern Caucasus states, 1996–2008 (%) Source: (Kathuria, 2008). Graph: ETF

1.70 Inflation and Budget Revenue

The inflation remains a problem for Georgia and a hurdle in sustainable economic development. Inflation rate peaked to 12.25% in 2008 (IMF, 2008). Since 2004, the budget revenue of Georgia has significantly increased, and a major portion of this has come from tax revenues. This shows a significant growth of profit tax and growth of VAT. Similarly, the capital revenue also grew in 2007.

As % of GDP				
	Total Revenues (GEL millions)	Total Tax Revenue (GEL millions)	Total Revenues	Total Tax Revenues
2000	905.2	854.3	15.0	14.1
2001	1033.9	954.7	15.5	14.3
2002	1135.3	1054.7	15.2	14.1

2003	1272.7	1186.6	14.9	13.9
2004	2102.0	1827.6	21.4	18.6
2005	3152.7	2411.5	27.2	20.8
2006	4235.6	3149.4	30.7	22.9
2007	5915.6	4391.1		

Table 3: Total consolidated budget revenues, 2000–2007, Source: (Sikharulidze and Kikutadze, 2014).

1.71 Fiscal policy

In 2007, the loose fiscal policy resulted in the budget deficit of up to 4.7% of the total GDP of Georgia. Therefore a new fiscal policy was introduced to develop a balanced budget in the future. The budget surplus is saved in the future development funds and used in special development projects. These policies helped the Georgian government to issues its first USD 500 million Eurobond.

1.72 Foreign Direct Investment

During the last few years, there has been a significant increase in Foreign Direct Investment in Georgia. These flows have represented the form of investment in the banking sector of Georgia, manufacturing and tourism industry also see a significant rise in FDI. According to an estimation, capital inflows is expected to increase up to USD 2.5 billion. The important portion of inflows came from Cyprus, Ukraine, Russia and the Virgin Islands in banking, tourism, energy and construction sector of the country.

1.73 Poverty

Poverty has reduced in Georgia significantly. The growth in GDP per capita shows this significant decline in poverty.

	2003	2004	2005	2006	2007	2008	2009
Nominal GDP per capita	919.0	118.0	1484.0	1764.0	2315.0	2913.0	2939.0

GDP per capita (PPP)	2996.0	3242.0	3644.0	4038.0	4694.0	4951.0	4931.0
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Table 4: GDP per capita, 2003–09 (USD), Source: (Godek and Ordover, 2009)

Per adult equivalent (GEL)	Mean income PAE, real 2007 prices 2003	Mean income PAE, real 2007 prices 2007	Absolute change	% change
Urban	115.1	128.3	13.2	11.5
Rural	36.8	66.7	29.9	81.3
Lowest quintile	0.6	6.9	6.3	1050.0
2	15	29.2	14.2	94.7
4	45.6	57.0	11.4	25.0
Highest quintile	225.8	303.7	77.9	34.5

Table 5: Income, per adult equivalent (PAE), real 2007 prices (GEL), Source: (Bank, 2015c)

The above table shows a significant rise in the PAE of lowest quintiles. The highest quantiles also show a significant increase in their income. In Georgia, the poverty rate was reported to be around 23.6% in 2007, and the majority of the poor population is saturated in the rural areas.

Poverty line- GEL 71.6 (total poverty)		
Urban	18.3	5.3
Rural	29.7	9.2
Total	23.6	7.2

Poverty line-GEL (extreme poverty)	47.1	
Urban	6.7	1.8
Rural	12.4	3.2
Total	9.3	2.4

Table 6: Poverty rate, 2007 (%), Source: (Bank, 2015c)

When viewed by regions, it was found that Tbilisi, the capital city of Georgia has the lowest poverty as compared to other areas.

Total Poverty	Poverty headcount rate	Distribution of poor	Distribution of population
	2007	2007	2007
Kakheti	46.3	15.7	8.0
Tbilisi	12.9	15.6	28.5
Shida Kartli	59.4	18.9	7.5
Kvermo Kartli	17.3	7.6	10.4
Samtskhe-Javakheti	18.1	3.3	4.3
Adjara	27.4	9.5	8.2
Guria	33.2	5.3	3.8
Samegrelo	14.4	5.7	9.3
Imereti	19.1	14.1	17.5
Mtskheta-Mtianeti	40.6	4.2	2.5
Total	23.6	100.0	100.0

Table 7: Poverty by Region, 2007 (%), Source: (Bank, 2015c)

1.74 Labor Force Demand

In the past few years, there has been a slight growth in the economic sector of Tbilisi and the demand of labor force increased. The major growth is seen in tourism, construction, port cargo, logistic and processing industry particularly associated with the economic reforms. In the major cities, the substantial growth is seen in enterprises with approximately 50% growth and 50% increase in the labor force (Winders, 2000). Similarly, statistics are observed in the Tbilisi and the nearby regions where companies grow by 42% (Winders, 2000). However, there are significant variations in the recruitment channels of different countries in the region. One of the surveys revealed that the demand of highly educated and technically skilled worker is increased up to 60% (Davis, 2015). This significant rise in demand has highlighted the importance of technical education to develop the required skills in the youth. In the construction industry, 57% enterprises have shown substantial progress, and the demand for skilled labor is increasing. It is the education system of the country which provides these skilled labor to the economic sector of a country and contributes to the sustainable economic development. The major sectors and their demand of workforce are described below:

Healthcare Sector: physicians and therapists, surgeons, obstetricians, nurses, assistants, emergency care staff, doctors in various specialist medical fields, pharmacists, drivers, distributors

Transport Sector: drivers, rail freight operators, driver-distributors, air traffic operators, lawyers, financial managers, logistics operators, rail transport operators and engineers

Banking Sector: Bank business specialists, credit administrators, credit operators, cashiers and operators, economists, ICT specialists.

SME Sector in Georgia

The economic sector in Georgia is largely private oriented (Papiashvili and Chiloglu, 2012). Improving the business environment brings stability in the private sector economy of Georgia. In the recent years, there has been a significant growth in SMEs businesses in Georgia, and the number of SMEs increased to thrice in 2008 than it was in 2003 (Papiashvili and Chiloglu, 2012). The share of SMEs is also almost identical to the other business in

Georgia. There is a large number of SMEs in all the operating enterprises. It is seen that large companies are concentrated in electricity, gas and water supply (37%); whereas other public businesses are mostly SMEs.

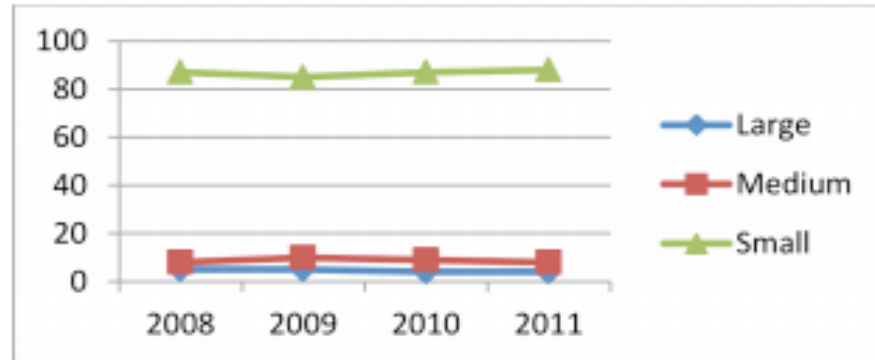


Figure 14: Number of Operating Enterprises by their Size in Georgia (Source: (Papiashvili and Chiloglu, 2012))

1.75 Innovation and Technology

In Georgia, the goods production does not produce added value in the economy. The only well-developed industry in Georgia is processing industry. The growth in processing industry is associated with agricultural production and natural resources of Georgia. However, slow progress in other industries is related to the low technological development in the country and innovation. The technological advancement is inevitable for economic growth and development. If there is no innovation in the industrial sectors, the natural resources will jeopardize. Therefore, Vocational education and training program is required to improve the innovative capacity of the country and boost the economic sector.

The case of Armenia

Armenia is the rapidly growing economies after the independence from the former Soviet Union. During the economic crisis of 2008, Armenian economic managed to grow at a rate of 10%. The significant growth of Armenian economy is associated with remittances. However, the rate of employment remained low at 53%. These statistics shows that the industries in Armenia are not entirely developed. Therefore, these industries are not recruiting new motivated workforce. Despite all these facts, the economy of Armenia is in a transition phase, and with the passage of time, the demand for the skilled worker will increase. One of the major drawbacks of Armenian economy is the lack of natural resources and poor market relations with the neighbor countries. However, the education system of Armenia provides its competitive advantage in the labor market. In the last decade, attention has been given to the higher education to reform the education system. In the mean time when Armenia was reforming its education system, the world was focusing on vocational education and training. However, Armenian policymaker did not prioritize Vocational education and training.

Armenia is the center of oldest civilization in the world. It is situated at the cost of the south-central Black Sea, Caspian Sea, and the Mediterranean Sea. In the past Armenia, has consistently been subjected to foreign invasion and lost its autonomy in the 14th century. During the 19th century, Eastern Armenia was occupied by Russia. Western Armenia also remains annexed under Turkish rule and faced systematic massacres. Armenia is a mountainous country with several scenery places. The country lies on high altitude mountains, and there are several high ranges, river valleys and also some extinct volcanoes. In the North and East of the country, Bazum, Pambak, Areguni and Vardenis, Caucasus ranges are present. Armenia lies in treacherous mountains and therefore face several issues of sustainable agriculture to support the economy of the country.

1.76 Human resource

The majority of the population in Armenia is Caucasus and speak Armenian. However, several Indo-European speaking families also live in Armenia. In addition to these, Kurds,

Russians, Assyrians and other groups also live in Armenia. The population of Azerbaijan settled in Armenia fled to other countries after the escalation of regional conflicts. Therefore, almost 3 million Armenian population lives in other countries. One and half million lives in Former the Soviet Union and other one million lives in the United States. The religion of Armenia is Christianity, and it arrived about 300 AD and had rich Christian tradition. Most of the Armenians are Orthodox Christians, and some are Catholic as well. During the 19th century, Russian invaded Armenia and a large number of the population emigrated from the country. Therefore, the economy of Armenia never showed substantial growth. The economic crisis of 1990, resulted in a significant number of immigration and the country was left in an economic emergency.

1.77 The economy

Before the invasion of Soviet Union, Armenian economy was primarily based on agriculture. However, under Soviet Union reign it changed to an industrial economy, but agriculture remained an important economic sector and provided two-fifth of the domestic products and attracting one-fifth of the workforce. Industries in Armenia is mainly dependent on the imports of raw materials. In 1988, a devastating earthquake destroyed one-third industries which damaged Armenian economy. The next year 1989, Armenia faced regional conflict with Azerbaijan resulting in the closure of natural gas pipelines from Azerbaijan to Armenia. The blockade of natural gas caused severe energy shortage which led to decreased industrial production. The severe form of economic crisis in Armenia started in 1990. The downfall of Soviet Union resulted in the independence of Armenia. The government made several structural reforms in the economic sector of the country to ensure a fair market economy and a framework to resolve the economic crisis.

1.78 Agriculture

Armenia is a mountainous country, and therefore agriculture faced some difficulties. Only two-fifth of the total area is good for cultivation, and fertile lands are rare. In the mountain regions, there are farmlands, vineyards, pastures, orchards. Arable land is also present in Ararat Plain, Sevan Basin, and Shirak Steppe. The southern river valleys and the northeastern sides of Armenia have high-quality grapes and fruit farms. In the last decade several storage

lakes, dams and canals are built for irrigation. The cattle are raised in the treacherous mountains; there are some tobacco and potatoes in the warm areas of mountains. These farms provide raw materials to the industries.

In Armenia the main branch of agriculture is viticulture. The most common orchards are crops, peaches and apricots, apples, cherries, pears and mazzards (sweet cherries). In addition to these Armenia also produce high quality of walnuts, hazelnuts, almonds, and figs. The main crop of agricultural lands are vegetables, cotton, sugar beets. However, in the recent years, the area suitable for grain crops is significantly reduced in size. The poultry and pigs play vital subsidiary roles in the agriculture of the country.

1.79 Industry

Machine tools, Mechanical engineering, and electrical power machinery, electronics, and the chemical and mining enterprises hold a prominent place in Armenia's strong industry, yet light and food businesses are additionally genuinely all around cutting edge. Yerevan, Gyumri, and Vanadzor are machine-building urban communities. The focuses of the synthetic ventures are Yerevan, Vanadzor, and Alaverdi.

Nonferrous metallurgy in Alaverdi, Kapan, and Kajaran—incorporates the mining and dressing of copper, molybdenum, and different minerals, the purifying of copper, and the extraction of precious and uncommon metals. The food business forms cultivate items, which take care of local demand and are traded. The most exceptional branches are included in the essential preparing of grapes and creation of top notch cognac, wines, canned organic products, and vegetables for the fare. Light industry an advanced development represents considerable authority in the generation of woolen, silk, and cotton textures; sewed merchandise and garments; rugs; and footwear. Yerevan is the primary modern focus, representing about three-fifths of the aggregate mechanical yield of Armenia. Other mechanical focuses and locales are growing, prominently in the north, where Gyumri and Vanadzor are presently major modern focuses.

1.80 Energy

At the underlying phase of industrialization, the production of a power base using the pressure driven capability of mountain streams was of unequivocal significance. Generation

of power was consolidated with the working of water system works and water-supply frameworks for ventures and urban communities. The Sevan-Hrazdan arrangement of hydroelectric power stations was the first need extends that utilized the waters of the Hrazdan as well as those of Lake Sevan. This venture made conceivable the jolt of horticulture and fabricated various enterprises. In the 1960s and '70s accentuation moved to thermal electric power stations consuming non-renewable energy sources and to nuclear vitality. Armenia's sole nuclear plant, near Yerevan, was closed down after the 1988 seismic tremor, however after Azerbaijan shut its gas pipeline to Armenia—bringing on a severe vitality lack—Armenia revived the plant in 1995.

1.81 Transportation

The rugged landscape is a positive hindrance to the development of land transport courses of any sort, despite the fact that separations amongst towns and districts are not incredible. A railroad line, prompting T'bilisi in the north and Baku in the east, goes to the northern, western, and southern districts of Armenia, yet the rail connection to Baku was shut in 1989. Yerevan is connected with the Sevan Basin by a line running along the Hrazdan River. Grouped along the rail courses are major modern focuses. The system of streets is significantly denser, with Yerevan as the primary center. Street transport conveys more cargo than the railroads; transports remain the main method of go amongst towns and cities.

Air courses interface Yerevan with Moscow and numerous Russian urban communities and with global urban communities including Athens, Paris, and Tehrān. Airship conveys new products of the soil to Moscow, St. Petersburg, and somewhere else. Pipelines connect Armenia with the Azerbaijani and Georgian gas fields. However, the Azerbaijani pipeline was shut in 1989, and the Georgian pipeline has been liable to occasional interruption.

1.82 Trade

Armenia sends out chemicals, nonferrous metals, machines, exactness instruments, materials and attire, wine, liquor, and foodstuffs. It is real imports, notwithstanding coal and, oil based goods, incorporate ferrous metals, wood and paper items, grain, meat, drain, margarine, and customer products. Armenia's significant import source and fare goal are Russia; other

exchanging accomplices include Ukraine, Belarus, Georgia, Iran, Syria, and the nations of Central Asia.

1.83 Education

Education has consistently gotten need in the American nation that has a background marked by education backpedaling 1,600 years. From the earliest starting point, the school has been the premise of the country's political and social survival and the motivator for national advance. The current instructive system was built up amid the little presence of the main Armenian Republic in 1918–20. Education in Armenia has customarily been very esteemed, and even today the most critical national issue is thought to be the upkeep and improvement of the instructive system and guaranteeing its similarity with common measures. This can be appeared by the laws and pronouncements issued taking after the Declaration of Independence. Article 5 of the Constitution of the Republic of Armenia embraced in 1995, states that all natives have the right to education; high school education in government-funded schools is free, and each resident has the privilege to get higher or appropriate education. On 14 April 1999, the National Assembly or Parliament received the Law on Education, which depends on the standards of the constitution and has given clear course to reestablishing the system. All things being equal, now and then, this law has experienced a few changes and alterations, contingent upon the education needs. In May 2000, a Governmental Decree affirmed the national criteria for general education, which guarantee quality in national schools. Parliament affirmed the National Plan for Educational Development 2001–2005 in June 2001, the fundamental objective is to guarantee the dynamic advancement of education, for this will be the conclusive calculate the arrangement of statehood and economic improvement. Besides, a progression of legal standards and controls has been received. By and by, the core reception of laws cannot guarantee the smooth advancement of the education framework. Simply to authorize the legislation and directions, the nonattendance of working systems to ensure the privileges of those included in training, and the money related, institutional and HR and substance issues that require arrangements these prevent the full improvement of the education system.

1.84 General Education

The objective of general education is to make actual conditions for the advancement of the mental and physical skills of people. The principle targets all in all training are: to empower the understudies to see essential information about nature, innovation, industry, and the earth. To make sufficient conditions to seek after self-instruction and self-advancement of the understudies persistently; to build up an individual outfitted with attention to national and global esteems, a beneficiary to the social, moral and mental estimations of the group, and who has built up a comprehension of legislative issues. Optional (finish) general instruction is actualized in an eleven-year general school, including the accompanying three levels: • Primary school (grades 1–3), Basic school (grades 4–9), High school (grades 10–11). 1,429 State-claimed general schools are working in the Republic of Armenia, out of which twenty-one are elementary schools, 147 are (eight-year) fundamental schools and 1,261 are finished auxiliary schools. About 115 schools among the secondary schools have the status of a school. The aggregate staff when all is said in done schools is 56,062, of whom 85 are ladies. The national educator/understudy proportion presently is 1:10, and the regulatory staff/understudy proportion is 1:20, which is low contrasted with the markers for creating nations: 1:17 and 1:25 separately. Around 73% of the showing staff are college graduates, 17.2% are alumni of educational schools, 1.3% have four-year college educations, 5% are alumni of non-academic colleges, and 3.5% are alumni of different universities. Educators' pay rates have diminished 14% against the marker for 1991, however, are still somewhat higher than the normal pay rates for staff in other State-subsidized organizations. The national spending plan for the most part subsidizes general training. Other than State-claimed schools, thirty-one non-State schools are as of now working with an enrolment of 2,979 understudies. There are 664 showing staff working in these schools. These non-State organizations do not get any budgetary assignments from the national spending plan.

1.85 Professional Education

Vocational instruction programs focus on the preparation of qualified pros, build up their ability and aptitudes, upgrade their insight and enhance their capabilities through the progression of general and professional training. Before 1990–91 vocational training was free, however since 1992 establishments giving professional instruction have presented

charge paying measures by State direction, where every foundation characterizes its educational cost expense autonomously. The Government characterizes the level of non-charge paying training and furthermore the spending portions of professional instruction given the interest for every classification of authorities. Every year, the Ministry of Education and Science and the Ministry of Finance and Economy together characterize the level of charge paying training given the limitations of the offices in each organization, the showing materials accessible, and so on. Access to professional instructive organizations happens through focused examinations. The principle professional projects executed in Armenia are following:

1. Essential professional instruction.
2. Center level vocational training.
3. Advanced education.
4. Post-graduate training.

1.86 Economic Development in Armenia

The economic growth in Armenia started back in the 90s and increased till the economic crisis of 2008. However, after independence from the former Soviet Union, Armenia faced a severing economic crisis. The reason behind economic crisis was not only the collapse of Soviet Union but was associated with the regional conflicts between Azerbaijan and other regional countries. Armenia is located in between the Azerbaijan and Turkey. The location of Armenia opened the gateway for its people to trade goods to other countries and attract foreign investment. However, the backbone of Armenian economy was chemical industry, electronic industry, machinery, and processing industry. With the passage of time, modern industries of information technology, finance, and tourism started to take the place of traditional industrial sectors. The major proportion of Armenian economy came from foreign direct investment and the large remittance that accounts for 20% of GDP. The situation for doing business was improved on an annual basis, and it was ranked 43 out of 183 in International Finance Corporation.

1.87 Armenia's human capital

According to the World Economic Forum report, Armenia was ranked 97th out of 133 countries in competitiveness index. However, there is a decline in the competitiveness of country which is related to the non-sustainable economic development. The majority of Armenian consider corruption in the country as the biggest problem in the route of competitiveness and sustainable economic development. This issue becomes huge along with poor work ethics of the labor force, high inflation ration, poor government policies and limited labor regulations. The unemployment of tertiary education graduate is also high in the country which shows the poor educational structure which is unable to meet the demands of an economic sector of the country. The below chart shows the dynamics of middle VET in Armenia.

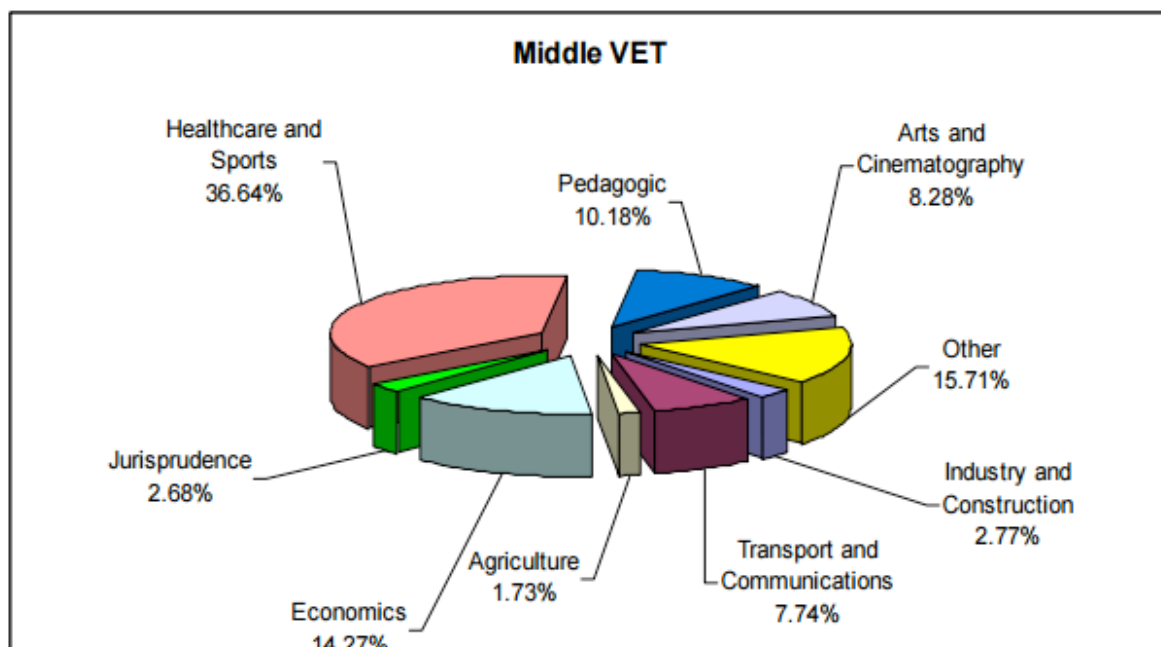


Figure 15: Enrolment of Students in Middle VET as by Academic Year 2008-2009

Chart:

1.88 Labor Market

The current policy of the government has improved the employment level in the country. However, one constraint in the current system is the policy of low wage that is affecting the labor market. The labors are not well trained and skilled to perform innovative tasks and

contribute to the economic development of the country. Moreover, the economic crisis of 2008 have also put extra pressure on the limited economy of Armenia, and it is facing a significant number of challenges. The growth in the past years did not manage to absorb the pressure of 2008 economic crisis, and the conditions of labor employment decreased substantially. However, during this period, the construction industry progressed, and so the employment chances in construction also increased. Despite these progress, the overall high rate of unemployment limited the opportunities for the workforce to find a good job at a reasonable salary packages so they tends to migrate to other countries and in this way the labor force which is the key towards the sustainable economic development flee to other countries and contribute to their economic development. Therefore, a system like Austrian Vocational education and training is required in Armenia to ensure that high skills are developed in the workforce, and an opportunity is provided to them to get a job during the study. This will help the cause of labor market in Armenia and ultimately boost the cycle of sustainable economic development.

1.89 Foreign Trade

The Foreign trade in Armenia can be categorized into three categories of pre-crisis, crisis, and post-crisis. During the pre-crisis period, Armenia enjoyed a substantial growth of 10.2% in its export. However, there was a gap of 2.86% between the import and export of country which is reflected in the negative balance in foreign trade on the annual growth of the country. The table below shows the status of foreign trade in Armenia.

	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Physical exports (USD)	679,6	727,2	1027,8	997,7	1157,4	1060,3	768,2	1019,1	1337,0	1361,0
Export dynamics (%)	-	+5,4	+41,3	-3,0	+16,0	-8,4	-27,5	+32,6	+31,2	+1,8
Physical incomes (USD)	1275,5	1350,7	1848,9	2193,7	3283,8	4471,0	3318,3	3790,5	4155,0	4284,0
Income dynamics (%)	-	+5,6	+30,9	+23,9	+49,5	+36,2	-25,7	+14,2	+9,6	3,1
Balance sheet of foreign trade (USD)	-599,9	-623,5	-821,1	-1196	-2126,4	-3410,7	-2550,1	-2771,4	-2818,0	-2923,0
Negative export growth dynamics (%)	-	+ 4,7	+30,2	+45,2	+78,9	+60,5	-32,7	+8,7	+1,7	+3,7
GDP volume dynamics	2807,1	3576,6	4900,4	6386,7	9179,4	1917,0	8714,2	9432,0	10135,	10674,0
Export/GDP dynamics (%)	24,4	20,2	19,4	15,7	12,6	14,7	8,8	10,8	13,2	12,8
Import/GDP dynamics (%)	45,6	37,8	36,1	34,3	39,2	39,8	38,1	40,2	41,0	40,1
USD balance of exchange	578,7	533,5	457,7	416,0	342,1	306,0	363,0	367,3	372,0	373,0

Table 8: Foreign Trade of Armenia from 2003-2012

The table shows the impact of foreign trade on the GDP of Armenia, and it is termed as import oriented economy during the period of pre-crisis from 2003-2008. However, during the economic crisis of 2008, the export of the country also drastically declined which brought some positive change in the domestic market of the country. The export again grows at a rate of 2.4% during 2010-2012. However, in the recent years, the industries of Armenia has started to grow slowly which improved the GDP deficit and decreased the export share of GDP by 12.3%. It is estimated that the imports of the country will grow gradually and will account for 40.4% of the GDP in near future (Musayelyan). All this will be possible through successful implementation of VET that provide the skills and knowledge to cope with the competitive global business and make Armenia as one of the sustainable economies of the world.

1.90 SMEs Sector in Armenia

In the developing countries like Armenia, it is important to create new jobs for skilled youth through upgrading the process of SME development in the country. According to Armenian Ministry of Economy, there are three main pillars to support the employment of young people and bring them to the cycle of sustainable economic development. These pillars are;

- Creating a friendly business environment for SMEs
- Promoting Entrepreneurship skills and knowledge
- Implementing a robust national strategy for employment of youth.

In the light of all these pillars, Armenia has 97.8% of registered SMEs enterprises in 2008 which shows that there is a potential opportunity for creating new jobs in SMEs which can ultimately boost the economy of Armenia (Prokopenko, 2008). One another study shows that SME sector contributes 41.0% to GDP of Armenia. SMEs made 40.7% of the economically active population of Armenia in 2006, and this share was increased to 45.7% in 2007 which shows that SMEs can be the game changer in the sustainable economic, social development of Armenia (Prokopenko, 2008). Despite these potential opportunities, there are some serious barriers to the development of SMEs in Armenia. These barriers include the following;

- Unequal and distorted business conditions for all SMEs in Armenia.
- High level of monopolization.
- High level of corruption in SMEs taxation, sanitation, and registration.
- Public officers hide the rules and regulations to get the advantage of unawareness.
- Large number of controllers and visiting companies with poor attention to improvement in business services
- Poor infrastructure railways and transport network.
- High-interest rates on bank credits and complicated procedures.

All these challenges need to be figured to make SMEs an active contributor to sustainable economic development. The government needs to improve the business environment for

SMEs and attract EU financial aid to supporting SMEs. This will ensure that SMEs are stable and provide support to sustainable economic development.

Western Balkans: case of Albania

1.91 Albania an Overview

There are clear desires for the part of professional and specialized training (VET) in the social-financial improvement of any nation. It was too important that the arrangement of VET should be updated under the evolving political, monetary, and social conditions found in Albania and also in the Balkan district. The engaging data gives a foundation identifying with the requirement for this review. In particular, the nation's history, culture, populace, framework, unemployment, financial movement, instructive framework, and social issues as identified with the reason for this review is portrayed.

1.92 Demography

As indicated by authority insights in 2001, the Albanian populace was evaluated to be 3.35 million occupants, of which 51% are females National Institute of Statistics and Informatics (Holzner, 2002). The Albanians are young, with a normal age of 28.6 years. The 0-19 year age involves 42% of the aggregate populace. Estimation accumulated by INSTAT demonstrate that around 600,000 Albanians, primarily guys, have emigrated. Internal populace shifts have drastically changed the urban to provincial proportion. The urban populace ascended from 36% of the aggregate populace in 1989 to 43% in 2001(Holzner, 2002).

The 2001 populace statistics showed that 93% of the populace in Albania is of Albanian nationality, though Greeks, Romanian, Montenegrin, Macedonian, and Roma minorities make up the rest of the 7%. Most minorities are found fundamentally infringe locales, while the Roma gatherings are spread all through the nation.

1.93 Financial Situation

With a specific end goal to have a precise picture of financial development in Albania between 1990 and 2002, it is important to comprehend the particular elements of the Albanian economy in the going before decades. Albania's times of hermetic segregation depended to a limited extent after putting a bizarrely high incentive on volunteerism in aggregate ventures. The midway controlled and arranged economy frequently fell prey to tyrannical, hasty and ineffectively supported choice making forms. Investigation of the period in the vicinity of 1951 and 1990 demonstrates a constant descending drift. The measure of aggregate monetary venture diminished pointedly in the late 1970s, after Albania's end of monetary relations with China, and achieved its most minimal level from 1986 - 1990. An extreme framework emergency amid the 1980s achieved sustenance apportioning, high expansion, expanding unemployment and near stagnation. Genuine earnings per capita diminished extremely.

After 1990, the absence of political soundness added to the troublesome financial circumstance and inevitably turned into an obstruction to the use of long haul techniques of financial change. The administration that rises out of the pluralist decisions of 1992 presented expansive liberal financial changes with components of stun treatment. This approach achieved sharp falls in the mechanical generation and drove Albania into a deep misery which proceeded until 1994.

Toward the end of 1996, the financial circumstance in the nation drastically declined once more. This developed more apparent at the start of 1997, with the money related fall of an assortment of casual venture and managing account plans – known as "pyramid" plans – that drove the nation into another economic fall and a time of extreme social turmoil (See Table 1). From multiple points of view, this was the second aggregate financial crumple of the nation inside a space of a couple of years. Unbelievably, these plans pulled in, inside only a couple of years, the life reserve funds of 33% of Albania's populace – around 1.2 billion US dollars (Malaj&Mema, 1998).

Year	1995	1996	1997	1998	1999	2000
GDP, million USD	2,422	2,689	2,294	3,058	3,801	3,722
GDP per capita, USD	745.5	819.1	690.2	911.6	1,122.0	1,094.4
Real GDP growth rate, %	13.3	9.1	-7.0	8.0	7.25	7.8
Industrial Production growth rate, %	5.4	15.8	-5.6	NA	NA	5.0
Annual inflation rate, %	6.0	17.4	42.07	8.69	-1.03	4.2
Annual unemployment rate	16.9	12.3	14.9	17.9	18.3	16.8
Average monthly gross salary, USD	69	83	64	76	87.5	104.6
Exports in millions USD	204.8	226.4	147.0	206.6	276.1	261.5
Imports in millions USD	713.7	923.3	632.6	838.9	1,157.0	1,088.7

Table 9: Selected Indicators of Albanian Economy (Source: (Fund, 2001)

In March 1999, the Albanian economy endured the third stun because of the political emergency in neighboring Kosovo. Albanian's liberally went to the guide of 500,000 Kosovar displaced people that were mightily ostracized from their homes. The nation's weak foundation was extended gaunt subsequently of this sudden and sizable convergence of populace. With no genuine open intends to adapt to the circumstance, individual friendliness given by individual Albanian's and their families are taken into account the displaced person's needs.

Extraversion is another trademark highlight of the monetary move in Albania. This implies that local utilization is higher than creation levels (Mema, 1998). The distinction is secured by budgetary settlements from Albanians abroad, also, to helping contributions from global contributor associations. Budgetary exchanges from Albanian travelers add up to around 400 450 million US dollars for each year. Contrasted and other Eastern and Central European nations in the financial move, Albania's level of reliance on settlements is like East Germany (Mema, 1998).

Shakiness is additionally reflected in the difference of provincial monetary execution. Seventy percent of the remote venture has been dispensed in the Tirana - Durrës hub, and in the western and southern areas of the nation. 80% of private and open ventures are found in Tirana, the capital, or in the beach front and south zones. Remote venture and foundation of new residential ventures are the primary components that have decided the pace of occupation creation, salary era and enhanced ways of life in each area, and these improvements have happened in a very rough way (Smith et al., 2015).

1.94 Transportation

The key goals of this area include the foundation of an excellent framework arrange for a compelling transport network, which will encourage development Increment effectiveness of cost recuperation in transport operations by decreasing the request on the state spending plan. By providing sufficient control of the vehicle operations with the point of expanding monetary effectiveness, street wellbeing, and condition assurance; and advancement of the collaboration with the private network and the improvement in the specific circumstance of the Stability Pact.

The measures and strategies to accomplish these vital goals include: recovery of the current transport foundation and advancement of the local transport joins. Commercialization of administrations and privatization of general transport operations, the foundation of a satisfactory administrative and institutional system; change of the vehicle data frameworks; and enhanced arranging and administration of the division. Change of the street transport framework is a need. The arranged exercises include recovery and development of the East-West and North-South national street passageways and their branches; and change of the urban and rustic street framework and street wellbeing framework (movement lighting, street signs/checking, street activity control).

Change of the railroad transport framework which will expect to finish the Crisis Rehabilitation Program. This would incorporate fulfillment of the stock redesign of traveler carriages, recovery of Shkoder-Hani I Hotel railroad line and fulfillments of the practicality examines and the point by point outline for the railroad interface with Macedonia. Change of the joint flight transport which will concentrate on the development of the new traveler terminal in Rinas air terminal, the usage of the Air Traffic Control Master system and the development of another runway and stop range for planes at Rinas air terminal. Moreover, the readiness of an achievability examines and a Master Plan for the advancement of the common avionics transport in Albania and the promotion of nearby airplane terminals.

1.95 Energy

Albania has an enormous hydro potential. It is evaluated that exclusive 35 percent of the assets have been utilized up to this point, without incorporating the nation's assets in oil, gas,

and coals (Bufi, 2015). The basic changes in the economy have had essential ramifications for energy utilization. While gas and coal generation has fallen detectable, the use of the populace has expanded. This has had its effect on energy utilization. It is evaluated that the family unit's utilization represents 35 percent of the aggregate and for around 55 percent of the aggregate interest for electric power (Bufi, 2015).

The nation's requirements for energy are secured totally from water assets. This makes Albania profoundly reliant on climate conditions. Under the present climate conditions, the imports and the residential creation cover just 57 percent of the local interest for energy (Bego and Malltezi, 2011).

In perspective of current advancements in the power system and the troublesome circumstances, the administration is resolved to take the basic measures to enhance the supply of power to purchasers at the earliest opportunity. The general part methodology will plan to guarantee a sufficient supply of power to all purchasers using elective assets, a better organization of the energy assets of the nation, development of the control limits and adjusting of the framework

1.96 Consumable Water and Sewage

Despite the fact that Albania is rich in water assets, the circumstance keeps on being portrayed by the absence of access for the urban and rustic populace to consumable water and sewage frameworks and other nearby administrations. A moderate execution of approaches and changes in the field of open administrations with a grouping of the populace in the rural zones a basic overburdening of the foundation and in administration.

1.97 Farming

In perspective of the enormous difficulties standing up to country zones, the usage of a national facilitated methodology for the rural area is of extraordinary significance. The vital destinations, meant to be accomplished later on include: keeping up the development rate of the rural and animals; increment the handling level of the horticultural, domesticated animals, and fish items; and change of the conditions and the level of commercialization of agrarian and animals articles in the household and outside business sectors.

Agrarian development is required to be driven by a more severe increment of creation also, the profitability of the rural and domesticated animals endeavors in the coming years. This will happen through expanded efficiency, growing the water system and seepage of the farming grounds, also, expanded utilization of sources of automation. Keeping up the rural creation development rate will require renewal of generation in the principle of the agricultural business through different programs. The points are to expand access to generation inputs and agrarian administrations, unite ranches and the expansion of their exercises, and enhance the framework and agrarian administrations.

Domesticated animals are one of the primary supporters of homestead salary (65 percent), and its significance is developing consistently (Bego and Malltezi, 2011). In perspective of this fast advancement, particularly in the last three-four years with an expansion efficiency per head. The need will be given to the foundation of a steady arrangement of animals generation by urging ranchers to set up as well as unite bigger ranches with 10-15 head of cows and 120-200 head of Littler domesticated animals, adjusting feed generation with animals numbers through supportable utilize and expanded adequacy of fields, the foundation of breed change focuses and presentation of new breeds. A combination of veterinary administration and research facility benefit; increment fake dairy cattle insemination at a yearly normal rate of 5 percent and foundation of reproducing focuses and use of cross-reproducing in dairy cattle and littler domesticated animals; and harmonization of veterinary enactment and enactment on foodstuff quality and cleanliness with the European Union and World Exchange Organization benchmarks.

In the yield part, need in the coming years will be given to the improvement of natural product developing, vineyards, and development of vegetables in nurseries and open fields. The zones prepared with these yields have practically multiplied in correlation with the main years of the move. The development of modern products, for example, sunflower or other oil yields, will be revived. Need measures for the period are: increment the quantity of organic product trees (natural products, citrus, olives) and regions with vineyards and glasshouse territories; presentation of new assortments with higher efficiency and reasonable for the climatic conditions; fortified product clean control and improved product assurance; and increment bolster with credit for foundation and support of new subjective natural product

estates. As a rule, the utilization of automation, quality seeds, and significant data sources is low, and this is reflected in low-efficiency rates. In this given situation, the primary measures to be taken in the following years will be a presentation of focused plans for the utilization of new advancements underway; rebuilding and fortifying the foundations of control and confirmation of seeds furthermore, saplings; and support for the private segment of seed and sapling generation. The relevant research farming action is as a rule by and by done by a system of 14 farming examination establishments under the expert of the Ministry of Agriculture and Food, and also by the nation's colleges, basically Tirana Agricultural University. The augmentation benefit utilizes around 300 specialists who give a specialized exhortation to agriculturists all through the nation. Numerous endeavors have likewise been made for the foundation and solidification of the control inspectorate framework and foodstuff control research facilities. The need activities for the future will be restored and reinforcing of the rural research organizations, the foundation of a national focal point of rural logical research and guidance, increment the part for connected look into as per needs of the ranchers and contribution of recipients in distinguishing proof of research needs, combination of counsel administration in all locale, the proceeded work for establishment.

SME Sector in Albania

In OECD countries, environmental regulatory regimes are developed to cope with the environmental risk to the size of the company. However, in the Albania, these regulations are not formulated according to the needs of SMEs. Therefore SMEs in Albania faced several environmental problems. The main challenges to the SMEs in Albania are following;

- The business operations of SMEs are diverse and complex which pose several limitations on the growth of the firm.
- There is no information available to regulate the compliance of SMEs during environmental risk conditions.
- The limited capability of SMEs to adapt the regulatory requirements.
- The lack of awareness of SME authorities to address the environmental risk to SMEs.

All these challenges need to be resolved to ensure that SMEs contribute to the sustainable economic development. SMEs in Albania are developed similar to the European structure. In Albania, SMEs provide maximum jobs and value-added to the skilled youth. Therefore, SMEs are imperative for the growth of Albanian business economy. In Albania 81% of the employments are generated by SMEs, 70% added value are also produced by SMEs (Çela and Gaspari, 2015). The table below shows the SMEs in Albania as compared to 28 EU Member States.

Number of Enterprises			Employment			Value added		
Albania			EU 28	Albania	EU 28	Albania		EU 28
	Number	proportion	proportion	Number	proportion	proportion	Billion EUR	proportion
Micro	73 748	95.6 %	92.4 %	130 929	45.6 %	29.1 %	0.65	23.2 %
Small	2 839	3.7 %	6.4 %	55 307	19.3 %	20.6 %	0.79	28.1 %
Medium-sized	503	0.7 %	1.0 %	47 677	16.6 %	17.2 %	0.51	18.1 %
SMEs	77 090	99.9 %	99.8 %	233 913	81.4 %	66.9 %	1.95	69.5 %
Large	89	0.1 %	0.2 %	53 278	18.6 %	33.1 %	0.85	30.5 %
Total	77 179	100 %	100 %	287 191	100 %	100 %	2.8	100 %

Table 10: SMEs related to added value, employment, and number (Albania vs. the European Union), (Source: (Çela and Gaspari, 2015))

Hypotheses for sustainable regional development

1.98 Software

There is several software available in for developing Bayesian Network models. Mostly used software packages for Bayesian Network modeling are Analytica; Netica; Hugin; and GeNie. In the present research, we used GeNie for developing Bayesian Network model. In this model, all the Bayes' theorems are applied to determine the conditional probability of discrete variables. GeNie modeler can also help in developing, learning, altering, storing and responding to the queries. The user-friendly graphical interface also gives GeNie an advantage.

1.99 Model Regional Sustainable Development Processing

The objective of the present study is fulfilled by developing a Bayesian decision network. This decision network guides the policy makers to make a robust and efficient policy for the implementation of Austrian VET in the educational system of Georgia, Albania, and Armenia. Before beginning with the model development, we reviewed several studies related to the implementation of vocational education and training for the sustainable economic development. In this way, we were able to understand the limitations of previous research, the prevailing problems in the current education system of the three countries and the decisions which are necessary to undertake to speed up the process of sustainable economic development in these countries (Castelletti and Soncini-Sessa, 2007, Ticehurst et al., 2007). The initial review helped use to determine the primary Bayesian Network and possible management actions required.

1.100 Model Structure Description

A preliminary Bayesian Network was developed using the World Bank Country Profile data using the main economic discrete variables. A simplified version of the Bayesian Network model is shown in Figure 3.2. It is shown that Austrian VET have an impact on the skills of

the worker which ultimately benefits the small medium enterprises. This leads to a sustainable economic development of the country.

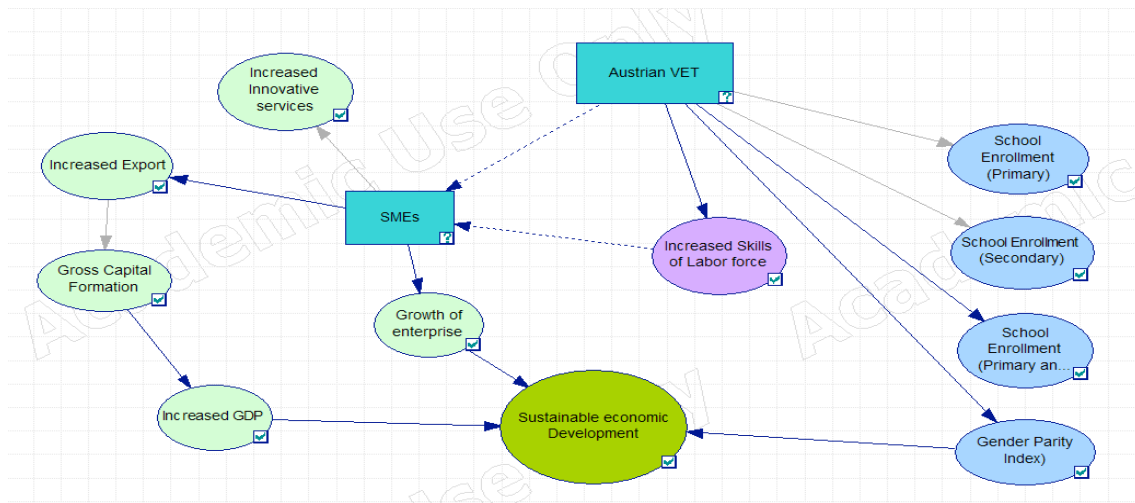


Figure 16: Bayesian network for the sustainable economic development

Variable	Description
School Enrollment (Primary)	Number of Students enrolled in Primary Education
School Enrollment (Secondary)	Number of Students Enrolled in Secondary Education
School Enrollment Primary Secondary	Number of Students getting both education
Gender Parity Index	Equality of both male and female students
Skills of Labors	Improvement in Labors skills due to VET
Innovative Services	Improvement in SMEs innovation
Exports	Improvement in Exports of a country
Capital Flow	Any change in the capital flow of the country
GDP	Any improvement in GDP
Growth of Enterprise	Enterprise grow with the passage of time

Table 11: Variables for Sustainable Economic Development in Bayesian Network

1.101 Scenario Development

The base case scenario is developed to simulate the impact of Austrian vocational education and training programs. It was assumed that Austrian VET helps to increase the skills of the youth in the countries mentioned above. In this way, it provides skilled young people to the SMEs. The innovative services and production increase which leads to the growth of enterprise and contributes to GDP. There are eight base case scenarios (2^3) of the probability of improvement based on Austrian VET in three countries.

1.102 Conditional Probability Tables

The conditional probability tables help in updating the nodes (Bayes' theorem), (Castelletti and Soncini-Sessa, 2007), and shows the sensitivity of discrete variables in the success of Austrian VET. The Bayesian network is quantified through conditional probabilities. These conditional probability tables are generated through different information such as data, model simulation, economic investigation or even stakeholder's surveys (Ames et al., 2005).

The sustainable economic development conditional probability was specified for all the three countries through data obtained from World Bank Country profile, literature review, and simulation models. Data analysis, was performed on the obtained data to determine the input values of probabilities of the success of Austrian VET. The Bayesian model, was run using all the probabilities states. The joint probabilities were used to specify the conditional probability of model output. The measured data sets for the three countries were available therefore it was not so difficult for model development. Also, Economic analysis, and other studies helped to determine the conditional distribution of the probabilities in the model (Ames et al., 2005, Kragt et al., 2009).

1.103 Model Validation and Verification

After the development of the Bayesian model, it is important to test the model to develop its validity and verify it. The integrative nature of Bayesian network limits the validity analysis of BN as a whole. The model, is developed to determine the possible effect of VET on the sustainable economic development of Georgia, Albania, and Armenia. The possible consequences of this decision to implement Austrian VET, have been observed through the

previous literature and data. Therefore, the simulation model results and input data for the nodes were used for model validation.

1.104 Results

Bayesian Networking is a valuable practical decision-making tool as it supports the possible changes in the outcome probabilities related to the implementation of Austrian Vocational education and training programs. To determine the impact of Austrian VET on the selected nodes, any change in the output conditional probability is compared with the output of the other two countries.

The results revealed that implementation of Austrian VET and the relative scenario have a significant impact on the skills of the labor force. Figure 1 shows that highest impact of VET on the Armenian labor force with a high probability of their contribution in the sustainable economic development of the country. The impact of Austrian VET on other two countries nodes are also shown in Figure 3.3

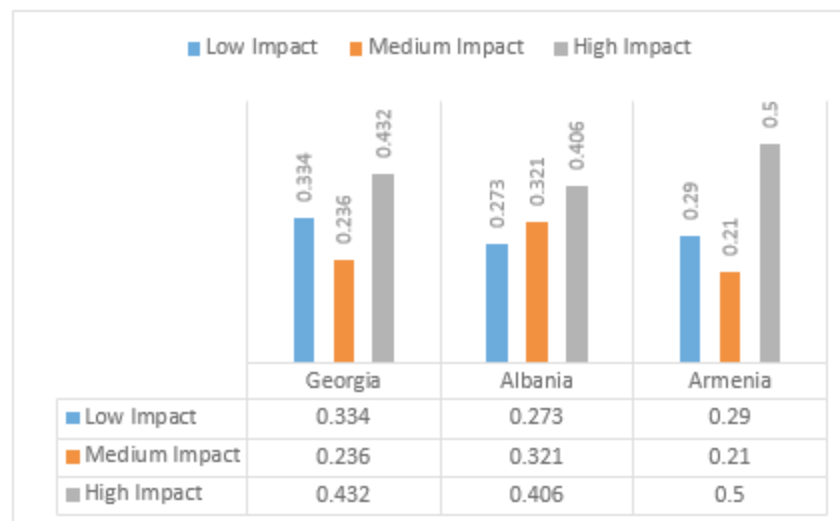


Figure 17: Probability values of the labor skills in the selected countries

It is also seen that Austrian VET also increase the Gender parity index of all the three countries. Highest improvement is seen in Albania, and it is found that it has the highest probability to employ youth in sustainable economic development irrespective of the gender. The results are quite fascinating and show the positive impact of Austrian VET on the

education system of selected countries. Figure 3.4 shows all the conditional probabilities of the VET success.

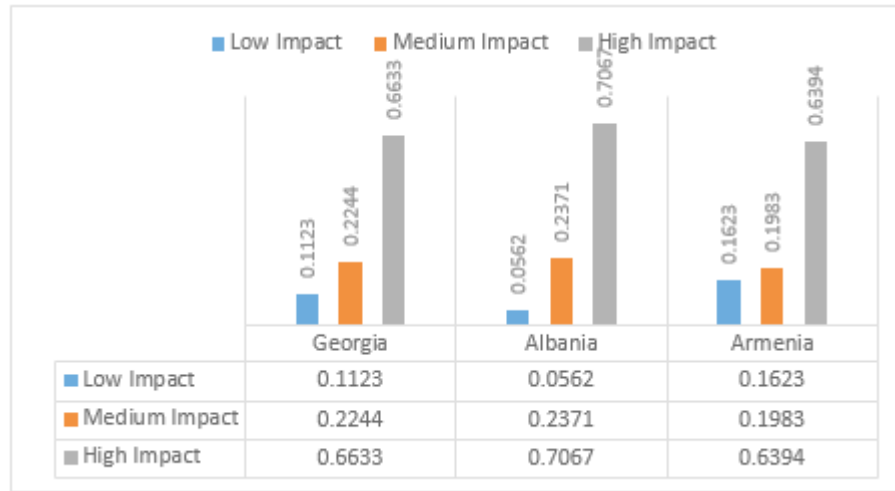


Figure 3.5: Probability values of Gender Parity Index for implemented Austrian VET

Similarly, it was also found that Austrian VET increases the growth of enterprises. The highest impact probability was found in Georgia. These results are attributed to the recent reforms in the economic structure of the country which allowed the workforce to participate in the growth of organization actively. The highly skilled youth develops innovative services which ultimately helps the enterprises to grow. Similar results are found in Albania. However, low impact is observed in Armenia. The results are presented in Figure 3.5.

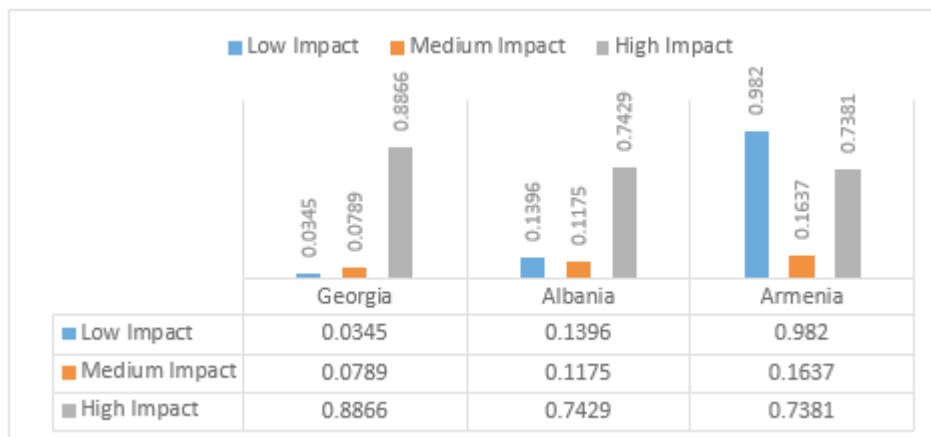


Figure 3.6: Probability values of the increased Growth of Enterprises for implemented

When the probability of success of Austrian VET on the sustainable economic development was analyzed, It was found that in Georgia, there is 0.76 probability of 0-50% sustainable economic development after a successful implementation of Austrian dual education VET program as shown in Figure 3.6. Similarly, 0.44 probability of 0-50% success in sustainable economic development was found in Albania. In Armenia, there is 0.498 probability of achieving sustainable economic development through successful implementation of Austrian Vocational education and training. These results show the benefit of Austrian Dual VET system which is the key for Austrian development. If it is managed properly and implemented with a proper plan, these results show its success.

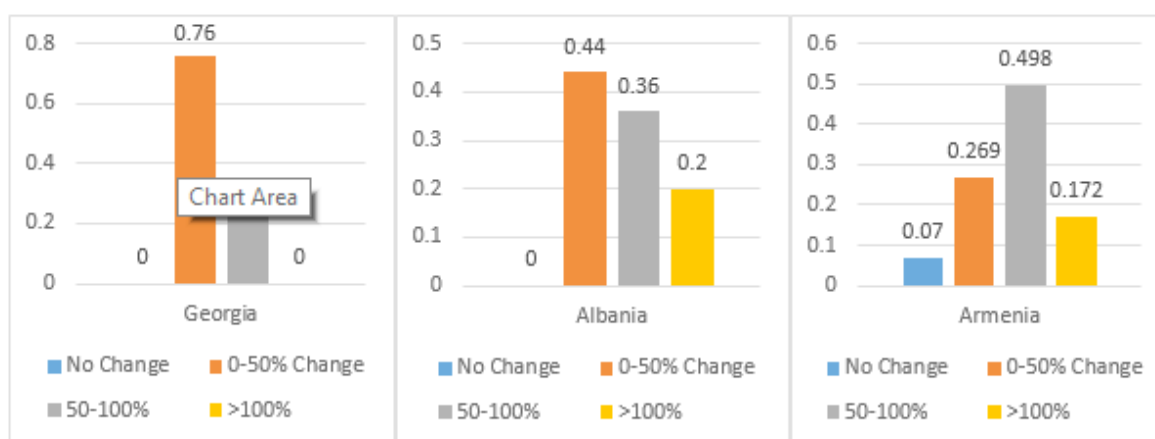


Figure 3.7: Conditional Probability of Success of Austrian VET in Achieving Sustainable Economic Development Goals in Georgia, Albania and Armenia

The below tables shows the variations in the main variables of all three countries which are crucial for their sustainable economic development. The GDP growth rate of Georgia and Albania reduced from 2010-2015 which shows the lack of proper policies to counter the growing inflation. However, during this period the GDP growth rate of Armenia increased which is also reflected in our results, that the implementation of Austrian VET in Armenia will have 0.17 probability of more than >100% success of this program.

Table 3.10: Discrete Variables of Sustainable Economic Development in Georgia, Albania, and Armenia.

	GDP Growth (Annual %)		GDP Current US\$		School Enrollment Primary (%) Gross)		School Enrollment Secondary (%) Gross)		Inflation GDP deflator (Annual %)	
	2010	2015	2010	2015	2010	2015	2010	2015	2010	2015
Georgia	6.3	2.8	11.64	13.97	109.9	116.8	88	104	8.5	5.8
Albania	3.7	2.8	11.93	11.40	99	113.7	88	96	4.5	0.2
Armenia	2.2	3.0	9.26	10.53	102.4	98.5	97	89	7.8	1.2

Source: (Bank, 2015b, Bank, 2015a, Bank, 2015c)

Discussion

The study was focused on determining the impact of Austrian vocational education and training on the sustainable economic development of developing countries in Europe (Georgia, Albania, and Armenia). The findings of this study revealed that there are potential opportunities to improve the current vocational education and training programs of these countries and implement the Austrian program. Based on the findings of the present study we made several conclusions.

In the present study, it was found that GDP growth rate of all the three countries declined during the last five years and there is a high demand for skilled labor. This shows that the current vocational education and training programs in these countries are not providing skilled workforce according to their industrial needs. Austrian VET program was modeled in GeNie modeler, and it was found that it increases the efficacy of students in the primary and secondary education system and ultimately enhances their technical skills. The education system of a country is an integral part of Triple Helix model as discussed in the literature review. If the education system is working efficiently and providing the necessary workforce, the country sees a rapid progress in its economic development. However, several factors are crucial for the successful implementation of the Austrian VET in these countries. The participation of all the stakeholders is necessary to get the best out of the VET.

The findings of the present study also suggest policy changes at the national level enhance the productivity of the vocational education and training programs in the social and economic development of Georgia, Albania, and Armenia. These changes include philosophical changes and enhanced commitment to the government and enterprise. The increased awareness of vocational education and training is another key towards successful future economic development (Gnyawali and Fogel, 1994). The interpretations of the results of the present study also revealed that it is the responsibility of government to provide the necessary revenue to every sector and also provide real leadership to ensure a promising framework for vocational education and training. The results of present study agree with the previous studies conducted by International Labor Organizations and the World Bank.

The curricula of the Austrian VET is also necessary to ensure that right skills are developed in the students. The implementation of Austrian VET is a long-term plan and needs to be implemented gradually so that it have a positive impact on the economic sustainability. A successful VET plan must develop the skills of the labor force, enhance their self-esteem, develop leadership skills in them and positive attitude towards the organizational success (Pittman and Wright, 1991). The models generated in this study reveals the success of VET in developing technical skills in the labors. The results of the present study apply to the countries in the Balkan and Eastern European countries.

1.105 Outcome of VET in Education

The results of present study suggest that Austrian VET significantly improves the primary and secondary education of the respective countries. It enhances the number of students acquiring primary and secondary education. The results of present study are consistent with the previous studies which suggest that youth continue to pursue higher technical education rather directly entering the labor market (Powell and Solga, 2011, Eichhorst et al., 2015, Hanushek et al., 2017). These changes are associated with the high level of education rather than labor market outcome. However, high-quality education with technical skills youth can enter the labor market equipped with highly technical skills after completing their tertiary education. When the results of Austrian Vocational education and training is compared with the general education system of the respective countries. It was found that the general education system create does not persuade the students to go for tertiary education rather than it force them to enter into a dynamic labor market where the youth with limited skills often struggle (Leigh and Blakely, 2016). However, Austrian Vocational education and training programs provide an opportunity to the students to learn the technical skills in the tertiary education system, and after acquiring all the useful skills, students become active workforce and enter the labor market. In this way, they can offer maximum productivity and increased innovation in the SMEs. Ultimately the vocational education and training system provide substantial support to the sustainable economic development of a country.

In developing countries, the medium, course content, duration and social status of VET is influenced by the colonial and occupier's educational system. All the education system across the world are almost similar and have some degree of homogeneity. However,

vocational education and training differ greatly from country to country even in the developed countries. In Europe, the vocational education and training programs vary from developed countries to the developing countries (Fägerlind and Saha, 2016). In the UK, the vocational education and training programs emphasize on the employability of the learners and develop essential job-specific abilities and skills which enable them to get the maximum opportunity of employment right after completing the vocational education and training programs. Despite the fact of improved skills, it has one major setback, and that is the curriculum of vocational education and training programs comes at the expense of academic subjects. These learners are unable to get a further education more specifically higher education after completing the vocational education and training programs. However, in the present study, we found that proper implementation of Austrian dual VET system allow the learners to get a job in the enterprise and further continue their studies according to their needs.

In most of the developing countries, one similarity between VET programs is that they have very low social status (Deißinger, 2003). Most of the younger people opt for the vocational education and training route instead of going for the general education. There are several drawbacks in the modern vocational education and training programs of Georgia, Albania, and Armenia which needs to be fixed quickly if they want to excel economically (Deißinger, 2003, Brauchler, 2015). The major issue in the current VET programs is that they lack the relevant links with the economy of the country. There is no practical relevance in the current VETs, outdated curricula and poorly trained teachers limit the VET of these countries. The required objective of a sustainable economy is not accomplished through these VETs. Another major problem identified in these countries is that employers are not willing to invest in the traineeship programs. VETs are fragmented and are not fulfilling the demand of labor market and the economic sector of these countries. In the present study, it is found from the literature that administration of these countries is responsible for the fragmentation in VETs. The present VET system of these countries is associated with the general education system which lacks the in-company vocational training of the learners, and therefore these learners are unable to practice innovation in the business enterprises. The traditional education system is also not standardized in these countries according to the global requirements, and therefore limited vocational training only opens the opportunity for the

young people in the informal sector. In light of these findings, two studies doubt the impact of vocational education and training on the poverty-reduction (Colclough et al., 2010, Palmer, 2014).

One another study shows that successful implementation of a globally recognized VET program is based on proper promotion (Virtanen et al., 2014). Promoting the VET program during its early stages is essential. However, in Georgia, Albania, and Armenia, during the reign of foreign invaders and current political instability in these countries masked the opportunities of substantial promotion of VETs. Therefore, the present VET of these countries is ineffective to support the economic development. Looking at the ineffectiveness of these VETs, the sponsors and donors stopped donating funds for the vocational education and training program, which further deteriorated the conditions. However, during the same period, TVET progressed in German speaking countries, which show that proper policies and careful monitoring of these programs help it grow and contribute to the economic development regarding providing the highly skilled workforce to the industries.

In Germany, the dual system of vocational education seems to be highly successful. The reason deemed to it is the on-the-job training of the youth which leads to low unemployment rates. This system of education is considered as practice model globally. The results of the present study also show a significant improvement in the employability of youth after completing Austrian vocational education and training programs. One study shows rapidly increasing demands of a dual system of VET in developing countries (Eichhorst et al., 2015). One another study indicates that there are several limitations to transfer the dual system of one country to other countries without any proper management and policies (Barabasch and Wolf, 2011, Maurer, 2012). The educational traditions and the social environment are the two key players for successful implementation of dual vocational education and training programs. The success of the dual system in German-speaking countries is associated with the deeply rooted education system and the social organizations of labor which enables implementation of the dual system of vocational education and training.

However, in recent times there are multiple international trends in the vocational education and training which changes the national system to ensure successful implementation of dual VET. The results of the present study also suggest these changes regarding increasing the

productivity of organizations with more innovation that helps to promote the Austrian VET for the immediate economic needs of the country. In the recent times, it is seen that vocational education and training programs are more demand-oriented and provide trained labor force according to the need of industrial sector of the country. One study shows that demand-oriented VET has a powerful impact on the growth of economy and reduction of unemployment (Fasika, 2007). However, the main objective of vocational education and training programs is to develop cognitive and practical skills of the learner so that they can more flexibly deploy their skills. The living conditions of the workforce also improve from VET. This shows that if VET is implemented with proper strategies and approaches with predefined economic goals, it can help in achieving the goals of sustainable economic development.

1.106 Outcome of VET in Labor Market

The findings of the present study show a significant improvement in labor market. The skill level of labors improves, and they are now able to participate in the innovative services actively. The literature also revealed the economic benefit of VET through enhancing the labor market outcomes (Krause et al., 2014, Hilal and McGrath, 2016). It improves the individual productivity and therefore ultimately benefits the organization. The higher participation of young labor force and low level of unemployment ultimately speeds up the progress of enterprise and make it an essential element of economic growth of industries. Learning is a lifelong process, and individuals can improve their skills at any level of life. However, young workforce is an economic asset to a country. Similar results were obtained in Sweden, where implementation of VET programs improves the labor market and lower the level of unemployment (Gustafsson et al., 2016). However, in Sweden, the unemployment rate was higher for a three-year programs graduate than that of two-year programs graduate. The main reason associated with such a high incidence is dropping out from Vocational education and training institutes. In Sweden, to overcome this issue an advanced VET was introduced. Likewise, in Georgia, Albania and Armenia, Austrian HTL Dual apprenticeship vocational and education training program seems to be the key to improving the labor market outcome. The GeNIe Bayesian Model provides the evidence of significant improvement in

the labor market after the implementation of Austrian VET. These results are compelling for the policymakers to make ground for successful implementation of Austrian VET.

1.107 Skills Development through VET

In the recent times, the term skills development has replaced the term vocational education and training. The term skills development is often defined regarding preparing for the job in a decontextualized form without considering the interlinkages between the VET programs and the structure of labor market, social policies and social organizations (Allais, 2011). One of the study shows that skills development is misinterpreted it is defined in the context of preparing for the rather than for occupation. The neoclassical economic theory has a strong influence on the vocational education and training programs. According to the recent trends in demand-oriented skills has been based on the transmittance of competencies and delivering employability through VET to the youth. The models generated in the present study also shows that Austria dual vocational education and training programs deliver the demand based skills in the youth and provide them the opportunity to get good employment. In the UK, there is a predefined National Qualification Framework (NQF) which is defined by the enterprises and other key stakeholders of the economy so that vocational education and training programs provide the workforce with required qualification according to the needs of the economic sector (Werquin et al., 2014). The state only plays the role of regulating the public and private vocational training providers according to the defined NQF framework. The learners have the freedom to opt for the course from NQF and improve their chances of getting good employment. The concept of NQF is exalted in the neoliberal economic system (Allais, 2011, Avis, 2012).

Under the current neoliberal influence, the role of the state is changing from regulating the public and private vocational education and training providers to the training providers. These NQF based reforms in the TVET of the UK has shown significant improvement and increased the efficiency of this system. Similar findings are obtained in the present study, under the influence of Austrian vocational education and training programs, the education system particularly the vocational education and training system of Georgia, Albania, and Armenia improved substantially and enhanced the skills of the youth. The findings reveal that Austrian VET enables the workforce to take rational decisions in the marketplace at the

perfect timing. It is important to determine the root education concept of a country and policies which affect the implementation of VET. In most of the countries, the essence of education to provide updated knowledge to the youth and enable them to get good jobs and actively participate in the sustainable social and economic development. The result of the present study also shows that there is a significant improvement in the social gender disparity through Austrian VET which shows that all the elements of sustainable economic development are improving.

1.108 Skills for Economic Development

The development cooperation debate has underlined several assumptions based on the current status of VET. According to the first assumption, the successful implementation of VET can induce trained workforce in the industrial sector and economic development with more jobs for the youth (Allais, 2011, Deißinger, 2003, Brauchler, 2015). It is assumed that vocational education and training programs are only effective when there is a demand for high labor from the labor market. However, the paradox is solved and described that vocational education and training effectively overcome the problem of unemployment and increase the job opportunities for the highly skilled labor force. The result of the present study also revealed the similar impact of Austrian VET on the skills and reducing unemployment.

The second assumption in this debate was that global knowledge economy has significantly increased the demand for skilled labor force and the absence of these skilled labor force was the major constraint on the sustainable economic growth. One of the studies reported that the economic development in the West has not created additional highly qualified paid jobs and shows that the industrial sector still demands low-skilled workers (Green, 2006). According to this study, there is a polarization between highly skilled and low-skilled sectors and argues that it is directly associated with the increased global knowledge economy. The knowledge economy increases Digital Taylorism in which well-trained and paid elite are produced. However, one another study shows that there is an increase in deskilling process associated with the increased incorporation of technology in the business enterprises and requires more skills of the knowledge economy to cope with the challenges of the competitive global market (Greenan, 2003). In our study, the Bayesian model also shows that increased skills

help the youth to innovate and work with the latest technology in the firms which ultimately helps in the growth of the organization.

The third assumption of this debate describes that there is a mismatch hypothesis which is associated with the Vocational education system of a country that is unable to reduce unemployment and provide skilled labor to the economic sector. The literature review also highlighted this issue that the vocational education system of Georgia, Albania, and Armenia is not competitive enough to meet the demands of the labor market and economic sector due to lack of advanced technology and updated knowledge economy. However, one of the studies argued that it is dubious to relate unemployment with the training problems, there are several social and economic policies which also affect the unemployment level in the country (Allais, 2011). This shows that the mismatch hypothesis is complex and there are various variables associated with the unemployment. Similarly, in the present, it was found that the major problem of unemployment is emigration of highly skilled workers to other countries which cause a shortage of skilled labor force in the economic and industrial sector of the country.

The response to the mismatch hypothesis is orienting vocational education and training according to the economic needs of the country with proper policies to ensure smooth and fruitful implementation. One of the study shows that it is hard to assess the effectiveness of a VET program in any country (Mulder et al., 2007). This study also argued that the supply and demand balance between labor market and the vocational education and training program cannot be assessed due to several underlying reasons. The framework of NQFs increases the active participation of all the stakeholders of the economic sector in the vocational education and training programs through increased job opportunities and improved standards of qualification. However, this framework does not assess the effectiveness of the VET programs. The results of the present study also show the simulated models of the effectiveness of Austrian VET which are very significantly beneficial for the sustainable economic growth of Georgia, Albania, and Armenia. However, the real-time implementation of Austrian vocational education and training programs require appropriate policies and proper management to get its benefits.

One another study shows that developing countries often lag behind the intended objective of competency-based skills development programs (Sudsomboon, 2007). The main issue is the lack of comprehensive structure of vocational education and training program and curricula. Studies also show that competency-based vocational education and training programs do not meet the criteria of economic development in these countries (Allais, 2012a, Loose, 2008). Whereas in the present study it was found that comprehensive Austrian vocational education and training program successfully leads a country towards economic sustainability. One another problem identified in the current vocational education system is that its focus on the short-term economic needs of a country and therefore broader impact of vocational education and training on the sustainable economic development is ignored. However present study shows that Austrian vocational education and training programs integrate the knowledge economy and practical skills which have a long last effect on the labors skills development and long-term sustainable economic development.

Vocational education and training programs can significantly improve the economic structure of a country and reduce poverty. By changing the current structure of vocational education and training in Georgia, Albania and Armenia and modifying it according to the Austrian Vocational education and training can make a positive impact on the economy. There is a question that how can vocational education and training have a positive impact. One of the studies answered this question that orientation of vocational education and training programs towards the economic development as a principle have a positive impact (Bridgstock, 2009). It is also important to strongly anchor the vocational education and training institutes with the business sector of a country improves the practical skills of the youth. Better quality production and services of skilled youth are only ensured through the institutionalization of vocational education and training programs. One study also shows that it should be clear that negative social implication of labor market does not have any impact on the VET (Allen and Van der Velden, 2001). The vocational education and training programs actively contribute to economic development if appropriate policies and made in the economic sectors and industrial sector. It is important to involve all the economic stakeholders in designing curriculum and providing apprenticeship while studying help improves the skills level of the workforce and alleviate poverty.

1.109 Outcome of VET in SMEs

The present study revealed a significant improvement in the labor market which is directly related with the SMEs. The progress of a country is determined through successful SMEs ventures across the country. When the transitioning economies rely on SMEs, the outcome is sustainable economic growth (Gundry et al., 2014). It is important to note that without SMEs, the economic benefits of VET are wasted. Therefore, for a country to gain certain economic benefits it has to develop SMEs to ensure highly skilled workforce from VETs enter into SMEs and contribute their innovative services for the growth of the enterprise.

SMEs provide individual benefit regarding high wages for technically skilled worker and other incentives. In return, SMEs grow in productivity through the innovative skills of the workforce (Ghio, et al., 2015). There are two defining roles of SMEs. First, they invest in the training and VET programs by providing jobs to the students under apprenticeship schemes and promote skills. Secondly, SMEs serve as communities, where small societies of students doing apprenticeship interact and share the knowledge based ideas (Findlay et al., 2015). In this way, SMEs provide opportunities to harness skills and gain non-market benefits as well. The results of the present study provide a basic framework to implement Austrian Vocational education and training program to gain substantial economic gains and leads to sustainable economic development.

1.110 Vocational Education and Training Impact of Firm's Competitiveness

It is believed that robust education system prepares the staff, improve their skills and impart necessary economy knowledge which enables them to perform their operational efficiently activates providing a competitive advantage to the business firms (Akhtar et al., 2008, Sum, 2010, Hamburg et al., 2013). One another study shows that the competitive advantage is only gained through properly using the knowledge economy for the betterment of the organization. This indicates that organization needs to develop a strategy to integrate learning in their business activities (Rosenberg, 2000). The present study also shows that when business firm participates in the Vocational education and training programs and incorporate

training environment in their firms it boost their talent bank of the highly skilled workforce. According to another study, training improves the competencies of the employees and motivate them to increase the production of the business firm (Hamburg, 2014). Another study also shows that improved performance of employees through proper training gives a competitive advantage to the company (Maurer, 2001). The provision of efficient vocational education and training programs to the employees can reduce the failures of SMEs. In return, the SMEs contribute to the sustainable economic development. However, studies have shown that during the financial crisis, training budgets are reduced which put pressure on the vocational institutes. The below figure shows the significant variables associated with the education and training for SMEs.

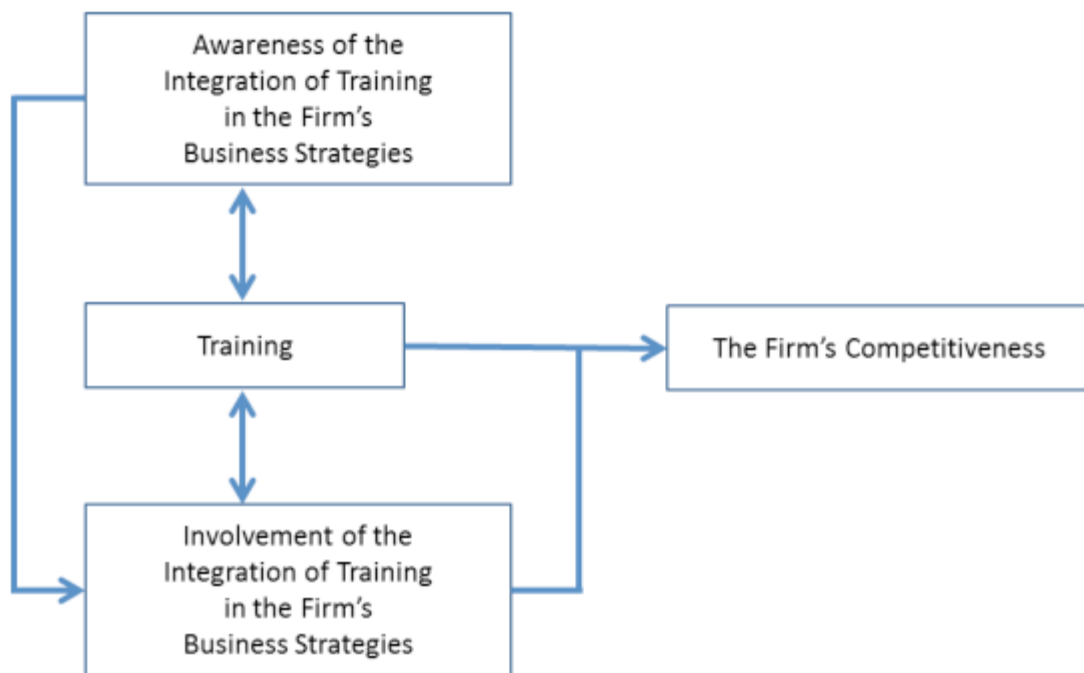


Figure 4.1: Variables for training (Source: (Sum, 2010)

One another problem identified is the lack of awareness of advanced technology. However, in the present study, it was found that Austrian Dual VET helps to familiarize the youth with the latest technology which ultimately benefits the business firms and gives them a competitive advantage. One of the studies also shows that proper training of technological development in the vocational courses helps to improve the skills level and provides technical and technological knowledge to the workforce. Therefore it is important for VETs

to develop skills along with the knowledge of technology in the youth to enable their active participation in the economic development of SMEs and ultimately achieve sustainable economic development goals.

1.111 Conclusion

The present study is a unique study that attempts to analyze the impact of Austrian VET on the sustainable economic development of three countries Georgia, Albania, and Armenia. All these three countries are developing countries of Europe and dealing with the problems of the economic burden on their population. The findings of the present study are preliminary and require further research to develop a robust framework.

The main findings of the present study reveal a significant impact of Austrian VET on the educational system of these three countries with a high probability of increasing the skills of the students. It also provides them an opportunity to work in the SMEs while continuing their studies. However, certain elements play a crucial role in successful implementation of VET programs in the schools. It was found that Austrian VET programs increase the number of students in both primary and secondary education system. The compelling features of Austrian VET attract the majority of students, and they develop highly technical skills while studying in primary and secondary institutes. Later on, these students will become a highly skilled labor force to fulfill the demand of progressing SMEs and enterprises.

The study also revealed that, when a highly skilled workforce enters in the enterprise, it enhances the productivity of the firm and ultimately increase the gross capital of the country by reducing the level of poverty. The wages of the labors also increase. Therefore, proper investment by the firms in VET programs is beneficial for both the organizations and workforce. The models generated through GeNIe show a glimpse of the successful intervention of Austrian VET in Georgia, Albania, and Armenia. The growth of enterprises also leads to the development of GDP per capita of the country. Overall the beneficial effects of Austrian VET outweigh the current education system in these countries. Therefore, it is important to develop a robust policy to successfully implement Austrian VET system to achieve the targets of sustainable economic development.

1.112 Recommendations

The following recommendations have been made to provide a guideline for a successful implementation of a structured and coherent Austrian vocational education and training program for the sustainable economic development in these three countries. These recommendations take the previous milestones under the EU 2020 strategy and advocate the post-2020 sustainable economic development through VETs and SMEs. The objective of this recommendation is to enhance the economic growth and achieve sustainable development.

1) Skills development Strategy for Development Through Austrian VET:

It is recommended that all the key players in the policy making should adopt a clear vision and approaches to ensure that VET and skill development strategies are in line and link the skills with the work. Therefore, the member states of EU have increased their collaboration on VET to implement common tools, promote quality VET, develop a link between VET and the labor markets and enhance the cooperation with developed member states of EU. It is the duty of government authorities to develop a coherent strategy for enhanced technical cooperation in the VET programs across the region. This will help the overall skill development of the youth in the region.

2) Linking Stakeholders through Austrian VET:

It is recommended to link all the interested parties across the region which pursue Austrian VET to increase cooperation and opportunities for development of technical skills. The exchange programs should of these countries be linked to ensure that quality vocational training is provided to all individuals irrespective of nationality.

3) Reinforcing the demands:

In the competitive market the tagline of “skills the employers need” is frequently used to assess the demands labor market for the competencies required in the projects. Therefore it is recommended to develop appraisal tools and techniques to determine the skills demands of the labor market so that VET provide the required labor force with the expected skills. In this way, VET can successfully help to the run the cycle of sustainable development.

4) Innovation in Vocational Institute:

The Vocational education and training programs cannot be referential and conservative in the current demand-driven economies. Therefore, to cope with the challenges of rapid globalization, technological innovations are considered necessary in the vocational institutes to produce skilled labors equipped with the modern technological skills and serve in sustainable development.

5) Reducing Gender Disparity:

It is also recommended that gender disparity in the VET programs should be reduced. Women are an important part of a sustainable society and help to develop sustainable economy through active participation in the economic policymaking. In the Europe, male VET has become the past. Now VET is available for both genders which ensure high participation of women in the labor market and ultimately boosting the process of sustainable economic development.

Appendix

Abstract (English)

The core of the economic development of a country lies in Human Development. Improved Human Development leads to the sustainable economic development of a country. A good government always formulate its policies based on the importance of Human Development. In the modern era, Human Development is only possible by integrating Vocational Education Training and establishment of SMEs to offer maximum opportunities to the youth. Vocational Education Training provides modern education, employment skills and social inclusion to young people to ensure they actively participate in the sustainable economic development.

The literature review has revealed that vocational education training is directed to provide proper education and training to the youth to increase their productivity in the economic fields. The current research project is aimed to test, quantify and predict the impact of Austrian VET and the establishment of SMEs on the sustainable economic development in Georgia. A Bayesian model is developed to show the consistency of sustainable development goals and to find the conflicting factors. In addition to these, based on the models we determine the limitations of the inconsistency in the sustainable development goals and conclude the success of Austrian VET in the accomplishment of sustainable development goals.

GeNie modeler analyzes the current economic growth with and compares it with the predicted economic development through Austrian VET. The model also provides information about the factors that are vital to improving the sustainable economic development in Georgia. In the end, the present research will make recommendations for necessary reforms in the Georgian education system considering Austrian VET for sustainable economic development in Georgia and the European region.

Keywords: Austrian VET, SDGs, Sustainable Economic Development, SMEs, Human Development, Vocational Education Training, Soft Power

Abstract (German)

Die wirtschaftliche Entwicklung eines Landes basiert auf die Entwicklung der lokalen Human Resources. Verbesserung der Humanen Resources führt zur einer nachhaltigen wirtschaftlichen Entwicklung. Eine gute Regierung formuliert ihre Ziele in Abhängigkeit von der Entwicklung des Humankapitals eines Landes. In der heutigen Zeit ist Humankapitalentwicklung durch Etablierung von Berufsbildung möglich und gleichzeitig die Gründung von kleinen und mittelständischen Unternehmen. Dieses Modell bietet der heutigen Jugend maximale Chancen sich in der Berufswelt zu etablieren. Das Modell der Berufsbildung bietet moderne Methoden, praktische Fähigkeiten und soziale Integration an, die wiederum eine nachhaltige wirtschaftliche Entwicklung erlaubt.

The Literaturanalyse führt zum Ergebnis, dass Berufsausbildung der Jugend zu einer erhöhten Produktivität der Wirtschaft führt. Das Forschungsprojekt dieser Arbeit hat sich zum Ziel gemacht den Einfluss des österreichischen Bildungsmodels und die Etablierung von kleinen und mittelständischen Unternehmen, in Georgien, Armenien und Albanien, auf die nachhaltige wirtschaftliche Entwicklung zu untersuchen. Mit Hilfe des Modells von Bayes wird der Einfluss auf die nachhaltige wirtschaftliche Entwicklung nachgewiesen und die widersprüchlichen Faktoren analysiert.

GeNie-Modellierer analysiert das aktuelle Wirtschaftswachstum und vergleicht es mit der prognostizierten wirtschaftlichen Entwicklung durch die österreichische Berufsbildung. Das Modell liefert auch Informationen über die Faktoren, die für die Verbesserung der nachhaltigen wirtschaftlichen Entwicklung in Georgien, Armenien und Albanien von entscheidender Bedeutung sind. Am Ende wird die vorliegende Studie Empfehlungen für notwendige Reformen in den jeweiligem Bildungssystem unter Berücksichtigung der österreichischen Berufsbildung für eine nachhaltige Wirtschaftsentwicklung in Georgien, Armenien und Albanien und der europäischen Region geben.

Schlagwörter: Österreichische Berufsbildung, nachhaltige wirtschaftlichen Entwicklung, KMU, Human Kapital, Soft Power

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