In recent years we have seen an alarming increase in volatility of the business environment. The era of turbulence, that affects companies' performance, requires from supply chain managers implementing appropriate strategies that will allow to cope more effectively with changes in supply, demand and products as well as crisis situations. The subject of the project is the **flexibility**, which has become in the last decade a very important determinant of the effective functioning of enterprises. Building flexible supply chains is today the right way of dealing with environmental uncertainty.

Supply chain flexibility consists of several, so-called flexibility dimensions. They concern particular areas of supply chain management. Exploring the dependences between the various flexibility dimensions of supply chain will allow to build the supply chain flexibility more effectively. Particular areas of the supply chain should not be treated separately because, they form together one value chain. Moreover, their integration is a source of synergy and added value for the customer.

Project focuses on **the B2B market** and the **production** sector. The subject of the research is the relationship: **first tier supplier - purchaser**. The supplier is the enterprise providing the purchaser with raw materials, components or final products. The purchaser is a production company or Original Equipment Manufacturer.

The main **objective** of the project is to identify the influence of involving suppliers in the product development process on the flexibility in relationship with suppliers. The knowledge in this field will help to make advantageous decisions in terms of configuring supply chain, designing collaboration with suppliers and developing products by manufacturing companies from different sectors in an increasingly demanding market.

In the project, both **qualitative and quantitative research** are planned. Throughout the duration of the project the systematic studies of the newest Polish and foreign literature are going to be carried out, to ensure the timeliness and completeness of the research assumptions.

In the first stage of the project, the qualitative research is going to be performed. It will involve carrying out several non-standardized, unstructured interviews. The main aim of the qualitative research is collecting as much information on the studied subject from business practitioners. The results from the interviews will support the construction of the measuring instrument for the second stage of the research. The method of best practice, case research and focus group interview are going to be used.

In the second stage of the project the method of collecting information in quantitative market research CATI (Computer Assisted Telephone Interview) will be used.

The proposal includes collecting and analyzing data from business belonging to numerous unrelated industries, e.g. automotive, household/electronic, pharmaceutical, food and clothing. Due to differences in regulatory, competitive and other environments and supply chain attributes (such as degree of product variability, length of product lifecycle, production environment, or predictability of demand) it is expected significant statistical differences.

The quantitative data analysis will allow to verify the **conceptual model** of product development in the flexible relationships with suppliers. This model was constructed basing on the literature analysis that was conducted by the Author of the application. For verification purpose, different methods are going to be used, e.g. descriptive statistics, correlation analysis, regression analysis, statistical tests, confirmatory factor analysis, structural equation modeling.