



List of Dissertation topics and supervisors for the study program Economics and Management of the Forestry - Wood Complex for the academic year 2023/2024

Name supervisor	Dissertation topic
prof. Ing. Iveta Hajdúchová, PhD.	<p><i>Model of implementation of green growth indicators in forestry enterprises</i></p> <p>The aim of the dissertation is to propose a model for the implementation of green growth indicators in selected forestry enterprises. Based on the results, the indicators will be modified and generalized for forestry conditions. The results of the analyzes will serve as a basis for the design of economic policy instruments to support the use of forest ecosystem services with the aim of achieving sustainable growth and increasing performance and employment in the forestry sector.</p>
prof. Ing. Miloš Hitka, PhD.	<p><i>Dependence on the motivation and corporate culture of employees of the forestry and timber complex</i></p> <p>If the company wants to be successful and wants to achieve the set goals and develop further, it is necessary to focus on the management and maintenance of human resources. According to current trends, these are considered to be the most important capital it has. The human resource management system itself consists in creating effective fulfillment of the business concept of the company based on maximizing the performance of the personnel. Individual areas of human resource management are, however, closely connected and interconnected. A useful tool that clearly and unmistakably distinguishes one company from another is corporate culture. It provides businesses with an opportunity to gain competitive advantage and also has a direct impact on their performance. In this view, there is a tool that can increase the willingness of employees to commit to the corporate goal. It is generally considered to be a relatively closed and specific cultural system formed by the values that organizations espouse, as well as the norms or rules that they follow in achieving the same goals. Corporate culture can act synergistically in favor of a particular business and unite its employees by creating a work environment that helps improve the business and its sustainability and helps in its innovation and change. Employee motivation is another important element that leads to high employee commitment, efficiency, quality, success and development of the company. The task of managers is to know the needs of</p>

	<p>their employees, which motivate them to work throughout their working life. Many managers are convinced that motivation comes from their personal qualities, but good motivation lies primarily in treating employees correctly, rewarding them and creating working conditions. motivated employees are more productive, more active, make a sufficient investment in work, provide higher work value, which leads to higher work performance. We can say that motivation is an element of business success with higher productivity. The aim of the work is to define the dependence of the mentioned areas of human resources management (employee motivation and corporate culture) for the employees of the forestry-timber complex.</p>
<p>prof. Ing. Ján. Holécy, CSc.</p>	<p><i>The information support of analysis and modelling the specific risk concerning the forest land management of Slovakia</i></p> <p>The scientific objective of a proposed post-gradual thesis is the elaboration of a software module for the analysis of data about the incidental felling of timber registered in the database of a retrieval system managed by the Institute of Forest Resources and Informatics belonging to the National Forestry Centre in Zvolen. The module will specify and evaluate the vulnerability of forest tree-species stands to particular harmful factors in relation to their age and geographical and climatic factors. A module will provide information about levels of hazard and risk concerning particular harmful factors in the forest land in the form of probability distributions of their occurrence in particular regions of Slovakia. The outputs of a module will serve as a base for improving the efficiency of forest management plans, as well as the inputs for the economic analyses of forestry projects concerning management of particular tree-species, under conditions of specific risk presence. The acquired knowledge can be used as inputs for the objective decision-making about the volumes of subsidies for forest owners for adaptation and prevention measures with the objective to strengthen a sustainable forestry. Information provided by outputs of a module will be able to use at the decision-making within the forest policy of a government.</p>
<p>prof. Ing. Ján. Holécy, CSc.</p>	<p><i>Mathematical modelling the insurance of forest against the comprehensive risk of extreme damages occurrence</i></p> <p>The scientific objective of a proposed post-gradual thesis is the formulation and testing the mathematical model of forest property insurance against the comprehensive risk of extreme damages insurance. These damages are not covered by assumed gross insurance premiums of the comprehensive insurance of forest against the random occurrence of several detrimental natural hazards. The working tool of solution for the mentioned problem are the methods and procedures of actuarial mathematics and the theory of extreme values as the new discipline of mathematical statistics. Information about risk concerning the occurrence of natural hazards will be provided by the statistical analysis of data about their occurrence, in the sample area of forest stands growing in the National Park of Slovak Paradise. The main assumed result of a thesis will be the mentioned actuarial model of forest insurance that will provide net insurance premiums against the expected extreme damages. The results of a thesis can contribute to strengthening the financial stability of enterprises that manage forest land in the presence of specific risk under conditions of ongoing climate change.</p>
<p>doc. Ing. Andrea Janáková Sujová, PhD.</p>	<p><i>Determinants of a performance in the wood processing industry</i></p> <p>The thesis is focused on the research of determinants of a performance in the wood processing industry (WPI). The aim of the thesis is to identify factors influencing the performance of WPI and its particular sectors and to analyse their influence. The result of the thesis is a model increasing the performance of WPI based on complex analysis of performance determinants.</p>

<p>doc. Ing. Andrea Janáková Sujová, PhD.</p>	<p><i>Enterprise agility in the wood processing industry</i></p> <p>The thesis is focused on the reserach of agility as ability to effectively adapt to unpredictable changes in the environment in specific conditions of wood processing industry. The aim of the thesis is to identify factors of external environment inducing changes and to propose a methodology for evaluating the level of enterprise agility and for its incerasing.</p>
<p>doc. Ing. Denisa Malá, PhD.</p>	<p><i>Assessing the performance of logistics processes in wood processing industry and furniture production</i></p> <p>The performance measures and metrics are inevitable in effective management of logistics processes, especially regarding global economy and its competitiveness. The real challenge for managers of this new corporate environment is to propose appropriate key performance indicators (KPI), as well as key behavioral indicators (KBI) that support the right decisions enabling the improvement in the enterprise's competitiveness in the field of logistic. The author of the dissertation thesis will outline examples of indicators that will enable managers to make the right decisions, and thus build, support, maintain, and improve quality of logistics processes. This will lead to ensuring the competitiveness of the given enterprise. Based on the analysis of the contemporary situation regarding the assessment of performance of logistics processes in word processing and furniture producing SMEs in Slovakia, the objective of the thesis is to propose an appropriate system of key performance indicators and key behavioral indicators, which will lead to improvement of performance of logistics processes, as well as performance of employees, in the field of managing logistics processes in an enterprise. The student should propose and outline such system of measuring the performance of logistic processes which will enable the word processing small and medium enterprises and furniture producers in Slovakia to flexibly respond to market changes. The thesis will compile information relevant for managerial decisions, in order for the enterprise to be able to optimize the logistics processes and employee performance.</p>
<p>doc. Ing. Hubert Paluš, PhD.</p>	<p><i>Determinants of Foreign Trade in Wood and Wood Products in the Slovak Republic</i></p> <p>Foreign trade is one of the ways in which the country's national economy is involved in the international division of labour. The extent of the country's involvement in the international division of labour and foreign trade depends on the size of the domestic market, production opportunities, the country's natural wealth, its geographical location, political situation, etc. Due to the availability of the domestic wood resources, the enterprises in the forestry and forest based industries are largely oriented towards supplying products only for the domestic but also for the foreign market. The share of exports in domestic production of wood and wood products varies depending on the size and structure of processing capacities and the demand for final products. In the Slovak Republic, 20-30% of the volume of harvested roundwood is exported annually, and in some sectors, such as the pulp and paper industry a share of exports is up to 90%. Other sectors, on the other hand, are partly dependent on imports of inputs. The aim of the dissertation is to determine the determinants of Slovakia's foreign trade in wood and wood products. To meet this objective it is necessary to elaborate a comprehensive analysis of the recent development and current state of the commodity and territorial structure of foreign trade, model the degree of substitution between products and between categories of foreign trade, develop a gravity model of foreign trade and quantify comparative advantages of Slovak trade (RCA index).</p>

<p>doc. Ing. Hubert Paluš, PhD.</p>	<p><i>Sustainability Assessment of Wood Value Chains</i></p> <p>Sustainable development can be characterised as an intergenerational concept aimed at the continued satisfaction of human needs. It comprises the economic, environmental and social aspect. Within current production and consumption patterns, value chains are important causal links between human activity and environmental change. Therefore, it is necessary to differentiate between sustainable and non-sustainable development. Despite the fact that numerous indicators for sustainable forest management are available, little efforts have been made to integrate them into the value chains. Apart from the chain of custody certification there are no indicators available covering environmental, social and economic aspects for the entire value chain, i.e. further stages of processing and utilisation of timber including cascade use, recycling and final disposal. The main aim of the thesis is to propose a set of indicators for assessment of sustainability and their experimental verification in the value chains of wood processing and utilisation in SR. These indicators will be focused on the assessment of socio-economic driving forces, state and impacts on the environment and the feedback of environmental change on society. The theoretical concept of sustainability will be transformed into concrete measurable results and recommendations for decision makers in integrating sustainability aspects into company processes.</p>
<p>doc. Ing. Hubert Paluš, PhD.</p>	<p><i>Application of emotional marketing methods for enhancing the wood products sales strategies</i></p> <p>Wood is described and featured as a very emotional material, but the measurement of these emotions and the consequent application of these findings in marketing is only developed to a limited extent. The renewable material wood offers possibilities to address all five human senses and therefore the opportunity to satisfy customer needs much better, if the perception of these stimuli is understood better. As the eyes and ears are addressed in all classical and digital communication activities, the approach of multisensual marketing in the context of wood needs practical and feasible methods to measure the haptic perception of surfaces as well as the smell perception of wooden odors. Staging these properties of wood and forest products enables the creation of unique selling propositions that directly address the emotions of customers beyond all technical properties. The aim of this thesis is the development of market research tools to measure the haptic perception of different wood surfaces and the judgement of wood odors to integrate these findings in branding and marketing strategies for wooden products.</p>
<p>doc. Ing. Ján Parobek, PhD.</p>	<p><i>Comparative advantages of forest industry products</i></p> <p>The high share of inputs from renewable sources represents a significant competitive advantage for commodities of the wood base sector. The aim of the dissertation thesis is to analyse the competitiveness of the wood processing chain in terms of the use of renewable resources. Based on the analysis of the current state of the forest base industry in the Slovak Republic and its position on the EU markets, the research focuses on the issue at different levels against the background of the international and domestic market, based on the competitive advantage of wood-based commodities. The commodity competitiveness model focuses on three levels of the woodworking chain. The first basis is raw wood, followed by commodities of first-stage wood processing and final wood based commodities. The output of research consists of models of wood base sector competitiveness as well as models of competitive advantages of selected wood-based commodities.</p>

<p>prof. Ing. Mariana Sedliačiková, PhD.</p>	<p><i>The influence of behavioral factors on the financial decision-making process in enterprises of wood-working and furniture industry</i></p> <p>Behavioral finance is a field or subdisciplinary of behavioral economy that examines people's real behavior and decision-making in the field of finance, including knowledge of psychology and sociology. The scientific goal of the dissertation is to propose a concept, the essence of which is to determine the key, systematically occurring errors in the financial decision-making process of managers in companies in the wood and furniture industry arising from the influence of the human factor, as a starting point before making wrong financial decisions. The mapping of the solved problem will be realized through guided interviews as well as the questioning method in the form of a questionnaire in the practice of Slovak woodworking and furniture companies. The dissertation thesis will have a corresponding scientific character, with the possibility of using its results on a practical level, at the level of enterprises and the state, from the view of support and sustainability of family businesses in woodworking and furniture industry in Slovakia.</p>
<p>prof. Ing. Mariana Sedliačiková, PhD.</p>	<p><i>Strategy for the development and sustainability of family business in the wood-processing industry in Slovak Republic</i></p> <p>Family businesses in Slovakia predominate mainly in traditional sectors, including the wood-processing industry. Based on the evaluation of the current state of family business in Slovak wood-processing industry, the main aim of this dissertation thesis is to propose the complex strategy of its development which support the performance and will lead to the sustainability of family enterprises. The mapping of the solved issue will be carried out by a questionnaire inquiry method through which starting, prosperous and failed wood-processing family and non-family businesses will be addressed. From the achieved results, such framework strategy of development will be proposed, which helps family enterprises to enforce on the market, to get closer to the customers, to increase their competitiveness, performance, financial health and sustainability. The dissertation thesis will have a corresponding scientific character, with the possibility of using its results on a practical level, at the level of enterprises and the state, from the view of support and sustainability of family enterprises in woodworking and furniture industry in Slovakia.</p>
<p>doc. Mgr. Ing. Rastislav Šulek, PhD.</p>	<p><i>Economic conditions of management of non-state forests within the Slovak protected areas</i></p> <p>Way of management of non-state forests is affected by both the internal economic efficiency of non-state forest enterprises as well as the external restrictions which are governed, except for the nature conditions, by the regulative state measures, characteristics of business environment, and principles accepted by the whole society. When non-state forests are located within the protected areas, their economic utilization is limited due to the nature protection. In Slovakia, 57 % of non-state forests are located within the protected areas – management of such forests is affected by a number of factors – the most important ones are economic possibilities of support of non-state forest owners, legal restrictions due to the nature protection, social and environmental preferences of the society. The thesis objective is to analyse economic environment of sustainable and effective management of private, common and municipal forests under specific economic conditions connected to the existence of protected areas in Slovakia.</p>