

MASTER STUDENT PROJECTS

CLUSTER ON INDUSTRIAL ASSET MANAGEMENT

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Managing the Efficiency of Foreign Engineering Contracts: A Study of a Norwegian and South Korean Project Interface

Author: Byungmu Ahn

Supervisor: Jayantha P. Liyanage

Abstract: In able to reduce costs, the oil & gas industry in the NCS has recently increased the amount of engineering contracts assigned to foreign contractors. However, the projects have largely failed to deliver in time and within budget. This thesis seeks the main causes for such phenomenon. It evaluates the communication and coordination management process between the contractor and client in able to suggest proper changes for overall improvement.

Safety integrity under demanding conditions: A Study on permit-to-work (PTW) systems in the Marine-Subsea Sector

Author: Shambu Jayakumar

Supervisor: Jayantha P. Liyanage

Abstract: The PTW (permit-to-work) system is a key element in preventing and mitigating risk in the oil & gas industry. The marine sub-sea sector is a particularly demanding and critical sector, thus the current system might not necessarily address risk properly. This thesis assesses the state of the current PTW system in such sector. Best practices and potential improvements are presented.

Application of the ISO-55000 Suite for a Land-Based Manufacturing Organization

Author: Dan Børge Bø

Supervisor: Jayantha P. Liyanage

Partners: Vebjørn Loen and Egil Brastad Hansen (Kverneland Klepp)

Abstract: This thesis aims at gaining an understanding of the new ISO 55000 suite and the subject of "asset management". The goal is to detect major strengths and weaknesses between this suite and the industrial organization analyzed. It contributes to the research and understanding of asset management and the ISO 55000 suite within the manufacturing industry.

Establishment of High-Performance teams on a platform: A case study of an operation team in COSL

Author: Xu Guang

Supervisor: Jayantha Liyanage

Abstract: Restricted

A study of how asset management and condition based maintenance can improve utilization of assets involved in the O&G industry on the NCS

Author: Per Hillesøy Kallevåg

Supervisor: Jayantha Liyanage

Abstract: This thesis is aimed at providing useful insight towards how asset management practices and the application of novel technological solutions related to condition based maintenance can provide improved utilization of assets involved in the oil and gas industry on the Norwegian Continental Shelf. A case study of the drilling contractor company COSL Drilling Europe is presented, with the goal of identifying improvement potentials related to their approach for managing the asset COSL Innovator. A review of the current implementation of condition monitoring of equipment, and especially the application of condition based maintenance have been performed, with the aim of detecting how an extended implementation of this strategy can improve the utilization of the asset in the future.

Regulatory demands and risk assessment documentation for fire and explosion hazards in offshore petroleum activities connected to startup of Iceland's Dreki area

Author: Jon Asgeir Haukdal Thorvaldsson

Supervisor: Jayantha Liyanage

Partners: Björn Karlsson & Elísabet Pálmadóttir (Iceland Construction Authority)

Abstract: Serious search has begun for oil and gas deposits within Iceland's exclusive economic zone. Icelandic authorities do not have the structure or experience to administrate and supervise offshore petroleum activities. Icelandic authorities should look towards countries that are experienced in such activities. Norwegian authorities have been quite responsive in adjusting their regulatory framework and regulatory regime to respond to recommended changes following major accidents and new challenges. Icelandic authorities should look towards the Norwegian approach to ensure safe extraction of oil and gas.

Optimizing the asset investment: A case of COSL marine support and transportation service business segment development promoting the asset value and risk management

Author: Jinjin Guo

Supervisor: Jayantha Liyanage

Abstract: Restricted

Formation losses in drilling: A case study from Indonesia on lost circulation

Author: Ping Yan

Supervisor: Jayantha Liyanage

Abstract: Restricted

Research and education infrastructure in public organizations – a case study at the Faculty of Science and Technology at the University of Stavanger

Author: Karianne Hessevik

Supervisor: Jayantha Liyanage

Abstract: The public sector is under a demanding regime, where resources and finances are extremely limiting factors. This means that good management and productivity are the keys to obtain better performance. This thesis attempts to answer the following issue: how are resources managed in the technical faculty laboratories at the University of Stavanger? The possibility of strengthening the organizational structure of these laboratories is evaluated.

Performance Improvement in Multinational Corporations

Author: Yang Liu

Supervisor: Jayantha Liyanage

Abstract: The aim of this thesis work is to develop a performance improvement model template which supports multinational corporations in their daily operations. An evaluation of performance improvement theories and methods such as Learning Organization, Knowledge Management, Triple Bottom Line, Six sigma, etc, together with analysis and synthesis of their implementations in four case studies, a series of critical performance factors and a process measurement model is concluded. Based on balance score card and development trend in future, a performance improvement model template is carried out as result in this thesis for practical instruction and reference use.

Human performance improvement in offshore specialized shipping – the operator's perspective

Author: Juha K. Palola

Supervisor: Jayantha Liyanage

Abstract: Vessels in the O&G industry are subjected to critical operations and are equipped with specific applications such as Dynamic Positioning System. In this context, the human is still considered to be one of the main contributors to accidents and incidents. The research aims at finding factors and improvement potential in the process that enable humans to cope with the complexity and uncertainty of work. It also seeks to identify dominant risk influence factors with major potential to lead unwanted incidents towards major accidental risk.

Asset management in the oil and gas sector – possibilities related to asset management as management philosophy for offshore assets

Author: Stian Berge

Supervisor: Jayantha Liyanage

Partners: (Statoil)

Abstract: Restricted

Data driven decision making practice in response with drawworks maintenance notifications

Author: Pengyu Zhu

Supervisor: Jayantha Liyanage

Partners: Sukhvir Panesar, Rajesh Kumar, Marius Isaksen

Abstract: Offshore installations are complex and need to be maintained properly to keep expected performance. Critical failures on these installations might induce great threats on productivity, personnel safety, and environment. This thesis suggests a maintenance strategy that combines corrective, preventive and predictive maintenance practices to achieve reliability as well as cost-efficiency.

Life cycle costing analyses of school buildings in Oslo Kommune – analyze requirements methodology and practice; development of quantitative LCC-model reversed LCC

Author: Erling Salicath

Supervisor: Jayantha Liyanage

Partners: Didrik Fladberg (UBF)

Abstract: The starting point of this master thesis is the Oslo Municipality. Specifically the real estate company "Undervisningsbygg Oslo KF" (UBF), which is subject to the investment model of the Oslo municipality. The hypothesis of this thesis is that government administration, operation and maintenance income on house rental contracts to UBF are lower than the real cost requirements in able to ensure real values in a lifetime span. A life cycle cost (LCC) analysis is developed in this project to evaluate this.

Supply chain coordination in European manufacturing companies

Author: Lyudmila Panchenko

Supervisor: Jan Frick

Abstract: This study highlights supply chain coordination through the analysis of development trend in the European manufacturing companies and the detection of those trends by representatives of the Norwegian industry in the period from 1996 to 2013. The project is constructed by descriptive and extensive research design combined with case studies, which go more in depth into the issue.

Bergen Fiber og deres utbygging av ny bredbåndinfrastruktur i Bergen

Author: Øistein Smith-Strøm

Supervisor: Jan Frick

Partners: (Bergen Fiber)

Abstract: Restricted

Payment on time in a global leading company

Author: Rebekka Kverneland, Kristian Børsheim

Supervisor: Jan Frick

Abstract: Restricted

Lean – a cultural issue?

Author: Trude Elisabeth Eberg Olsen

Supervisor: Jan Frick

Abstract: Lean has been a growing trend among companies who want to achieve greater efficiency, less waste of labor and materials and achieving competitive advantage. However, the system seems to be the victim of misinterpretations. A known perception is that there often exist a lack of focus or an inability of organizations to create a culture that will sustain Lean as a continuous change- and improvement process. On this basis, I wish to look at perceptions from various participants from different organizations, and their opinions regarding Lean and Lean as a cultural issue.

Forretningsplan for å kapre verdiskapning ved å introdusere “microconsulting” til konsulentbransjen i Norge

Author: Sindre Hansen

Supervisor: Jan Frick

Abstract: NA

Subsea inspection and monitoring challenges

Author: Ole Fredrik Frafjord

Supervisor: Knut Erik Bang

Partners: Bjarte Langeland (Stinger)

Abstract: This paper uncovers and suggests solutions for the challenges to control change over time more reliable and cost effective. Front---end concept engineering, design, inspection and monitoring strategies, technologies, systems and methods for Life---of---Field are recommended. Autonomous underwater vehicles (AUV) are identified as a possible cost efficient opportunity to reduce cost of inspections and monitoring operations while safeguarding asset integrity.

Risk analysis of the shale gas well testing installation

Author: Andrzej Krzysztof Józwick

Supervisor: Knut Erik Bang

Partners: Michal Gronert & Pawel Domzalicki (DNV GL)

Abstract: The primary purpose of this study was to examine what kind of threats are associated with functioning of the shale gas well testing installation, and also how failures of the installation influence the safety of the residents living nearby. With the development of the shale gas industry in Poland, the discussion about the influence of hydraulic fracturing on the social and

environmental safety has been raised. This discussion neglected the risks associated with the surface operations, which the author wanted to study.

Severe slugging phenomenon and a novel method for its mitigation based on the surface jet pump technology

Author: Ilya Murashov

Supervisor: Ove T. Gudmestad

Partners: Dr. Najam Beg (Caltec Ltd.)

Abstract: The present thesis is focused on the problem of severe slugging and ways to mitigate it. Severe slugging is an oscillatory multiphase flow regime characterized by high variations in production rates occurring in offshore pipeline-riser systems. The thesis provides Conclusions and Recommendations for further work and self-evaluation.

Development concepts for the northern Caspian Sea

Author: Arkhat E. Sultabayev

Supervisor: Ove T. Gudmestad

Partners: Aleksey V. Dengaev (Gubkin University)

Abstract: The challenges encountered in the Northern Caspian Sea are not usually met in such combination in other regions. This imposes special requirements for the further development of hydrocarbon fields in this region. This thesis is focused on the field development in the Kazakh sector of the Northern Caspian Sea and it is addressed to a discussion of development concepts that might be applied for these conditions. Possible options for production drilling, production of hydrocarbons, oil and gas transportation and processing are discussed on basis of the analysis of existing solutions for similar conditions.

Offshore ice-resistant gravity based for the cluster development of the Pechora Sea

Author: Ilya Efimkin

Supervisor: Ove T. Gudmestad

Partners: Anatoly Borisovich Zolotukhin

Abstract: The Arctic shelf of Russia is an area of great interests. The process of hydrocarbons offloading is the most significant challenge for the Arctic projects, mostly because of the harsh environmental conditions and lack of experience in operations on the Russian Arctic shelf. Study of this problem, in particular the conditions of the Pechora Sea was carried out in this report. Development of a method of oil offloading that would minimize the risks of oil spills, delay of oil supply and provide synergy effect is a primary aim of the Master thesis. Oil offloading by an ice-resistant terminal is considered to be the best solution.

Investigation of Suction Anchor Pullout Capacity under undrained conditions

Author: Jarand Hornseth Pollestad

Supervisor: Ove T. Gudmestad

Abstract: Floating units are dependent on reliable mooring systems to ensure safety during marine operations. Suction anchors have proved to be a technologically viable and cost-effective concept. They are capable of precision installation, re-use, and provide large resistive capacity. This thesis investigates load capacity and failure modes of suction anchors subjected to vertical, horizontal (lateral), and incline loading. Suction anchor design considerations, installation procedure, and associated challenges are discussed before reviewing analytical methods for calculating holding / pullout capacity.

Vortex induced vibration (VIV) analysis of subsea jumper spools

Author: Velarasan Masilamani

Supervisor: Ove T. Gudmestad

Abstract: The objective of this project is to perform a sensitivity study, of the fatigue damage due to vortex induced vibration (VIV), on the typical subsea jumper system. Even though there are other modes, which can cause fatigue damage to the jumpers, like the thermal cyclic loading from flowlines, slugging effect and fluid induced vibrations, this report is confined only to the fatigue damage due to VIV. A comprehensive study of a specific case has been carried out to demonstrate the effects of VIV on a subsea jumper spool.

Oil offloading solutions for the Pechora Sea exemplified by the Prirazlomnoye field

Author: Evgeny Subbotin

Supervisor: Ove T. Gudmestad

Partners: Anatoly Borisivich Zolotukhin

Abstract: There are many prospective areas to develop in Arctic and every considered project is unique. Solutions for one oil or gas field might not be appropriate for another. The Prirazlomnoye field is the pilot Russian Arctic project operated by company Gazprom Neft Shelf. The project covers the process of oil offloading from platform to tankers. There are some tasks to be solved in order to carry out operations safely, economically sound and professionally. This project analyzes how such tasks can be accomplished.

New Approach to the transportation and installation of heavy-weighted equipment offshore

Author: Chernov Dmitrii

Supervisor: Ove T. Gudmestad

Partners: Anatoly Borisivich Zolotukhin

Abstract: Installation of offshore equipment is a huge branch of business in the oil and gas industry. Currently, several techniques are used to carry out the full installation activities. The most used one is to transport the equipment by a subsea construction vessel (SSCV) and then transmit the equipment from the deck of the vessel to the seabed by a vessel's crane. However, service companies such as Subsea7, Aker, etc. have their own technologies, which could be classified as "wet" transportation and installation methods. The main aim of this work is to develop technical concept of a new wet transportation and installation approach.

Limiting operational wave criterion for spool installation lift (with emphasis on analysis and wind-wave modeling)

Author: Dreng Ånundson Viki

Supervisor: Ove T. Gudmestad

Partners: Mikal Dahle (Technip)

Abstract: Spool installation operations are highly sensitive to waves. The industry practice is to perform software analyses of vessel motions and hydrodynamic loading acting on the spool(s) when deployed through the wave zone, to establish a limiting operational wave criterion. A new Offshore Standard was recently issued, the *DNV-OS-H206*. The new standard distinguishes between characteristic vessel motions generated by wind seas and the once generated by swell. This report addresses the problem of whether or not including spreading when describing the wind sea is more conservative for spool installation lifting as compared to earlier recommended practice where waves could be assumed being long crested.

Risk assessment of diesel engine failure in a dynamic positioning system

Author: Vahid Rasoulzadeh Khorasani

Supervisor: Ove T. Gudmestad

Abstract: The high demand for hydrocarbons as the major source of energy has forced humans to expand the oil and gas industry beyond the shore. Because of the challenges of oil and gas exploration and production in deep waters, the marine and offshore industry is becoming heavily reliant on Dynamic Positioning (DP) systems. This study aims to demonstrate how a slight defect (that are often ignored in offshore DP operations) in ordinary and secondary components of a vessel's system can cause a significant failure in a Dynamic Positioning system and consequently lead to a catastrophe.

Structural design and application of concrete protection covers in shallow waters

Author: Arnstein Stangeland Waldeland

Supervisor: Ove T. Gudmestad

Partners: Meric Pakkan (Subsea 7)

Abstract: The objective of this Master's thesis was to investigate whether or not using protection covers made of reinforced concrete is a viable option for protection of subsea installations on the seabed. The problem was that in shallow waters of about 100m depth, the protection covers made of GRP experience problems with on-bottom stability due to the hydrodynamic forces from currents and waves. Unless tons of ballast steel is added to increase the mass of the cover, the covers are prone to be unstable or possibly moved by the currents and waves. The hypothesis behind the thesis is that the slightly higher density of concrete and the thicker walls of the concrete covers, will make them heavy enough to be stable on the seabed on its own.

Evaluating ultrasonic tomography (UT) methods used for the inspection of offshore pipelines

Author: Sara Sadat Jalalo Motaheri

Supervisor: Ove T. Gudmestad

Partners: Joachim Sannes (Halliburton)

Abstract: In the oil and gas industry, safe and trustable operations of a pipeline system need guidelines for operations and maintenance. These guidelines should be used to optimize the operations by improving product output and uniformity, lowering the input process requirements, decreasing the energy consumption and environmental impact and lowering the number of plant personnel. Real-time process monitoring also plays an essential role in providing efficient operations by providing quantitative data as accurately as possible and by consideration of hydrodynamic parameters like flow regime and flow rate. It will be suggested that imaging and measurements of the pipeline content in order to inspect can be achieved by an *ultrasonic tomography system*.

Stability of North Sea barges

Author: Sondre Vinye

Supervisor: Ove T. Gudmestad

Abstract: NA

Winterization of drilling systems

Author: Siv Hege Nærland

Supervisor: Ove T. Gudmestad

Partners:

Abstract: Arctic oil exploration and production (E & P) have increased because of a reduction in sea ice cover. The increased global demand for oil will result in a larger number of offshore structures being built and more of them need to be winterized. The main challenge of winterizing the drilling system is to make it operational and still maintain the required safety that is needed. The thesis presents the challenges and possible solutions for winterization of the drill-floor and the drilling rig as well as drilling related equipment in a cost effective and safe way.

Analysis of operation and maintenance strategies for floating offshore wind farms

Author: Christopher Brons-Illing

Supervisor: Ove T. Gudmestad

Abstract: NA

A UV application in offshore geophysical survey – a case study of a Chinese oilfield service company developing AUV technology

Author: Gong Yubin

Supervisor: Ove T. Gudmestad

Abstract: Restricted

Structural limitations of unbonded flexible pipe technology with emphasis on high pressure applications

Author: Timofey Postnikov

Supervisor: Ove T. Gudmestad

Partners: Philippe Secher (Technip/FlexiFrance)

Abstract: Restricted

Study of the module handling system on seven viking

Author: Knut Erik Gluggvasshaug

Supervisor: Ove T. Gudmestad

Partners: Tor-Bjørn Idsøe Næss (Subsea 7)

Abstract: Restricted

Is there a potential in using LNG as fuel for ships in China? A case study for platform supply vessels in COSL

Author: Shen Wen Feng

Supervisor: Ove T. Gudmestad

Partners: Restricted (COSL)

Abstract: Restricted

A study of negative damping and its effect on oscillating systems operating in the marine environment

Author: Amare Gizat Derede

Supervisor: Ove T. Gudmestad

Abstract: NA

Subsea standalone vehicle system for Snorre B

Author: Jan Fredrik Stangeland

Supervisor: Arnfinn Nergaard

Abstract: The rig manager on Snorre B, a semisubmersible production and drilling rig for Statoil, has expressed the need for a subsea standalone vehicle that can perform specific tasks when the conventional remote operated vehicles (ROV) is not capable of diving due to rough weather. This is seen especially during the winter season. Having a vehicle in standby at the subsea location, during all-weather situations, will enable critical work to be performed on the subsea structures and increases safety, such as operating valves during emergencies.

Analysis of operability in installing heavy subsea modules

Author: Sandra Djupevåg Eri

Supervisor: Arnfinn Nergaard

Abstract: Today (2015) subsea technology is a big part of the oil and gas industry. New subsea solutions are developed rapidly and large components that previously were placed on a platform are now being moved subsea towards the vision of a complete subsea processing facility. In order to ensure high operability of the subsea systems, it is essential to be able to perform marine lifting operations of subsea structures all year. This implies that high operability and large lifting capacity of the vessels are necessary. This report deals with how the weight of subsea modules affects the vessel operability during installation operations.

Dynamic analysis of emergency disconnect during workover operations

Author: Sveinung Kleppa

Supervisor: Arnfinn Nergaard

Partners: Robert Olsen (GE Oil & Gas)

Abstract: Emergency disconnect from the stack-up with large rig offset during well intervention is considered as a critical operation. Failure of disconnection from the well can lead to a major accident. Unofficial figures suggest that the connector fails to release 15 – 20 times globally each year. To comply with ISO 13628-7 the industry has developed High Angle Release (HAR) connectors for the Emergency Disconnect Package (EDP). The connector shall be able to safely release with a minimum offset angle of 10°. The main objective of this thesis is to analyze the motions and the associated forces occurring immediately after disconnecting from the stack-up.

Non-intrusive inspection (NII) of pressure vessels

Author: Andreas Eriksson

Supervisor: Srividya Ajit

Partners: Kenneth Olsen (Statoil ASA)

Abstract: The aim of this thesis is to identify and recommend vessels that are suitable for inspection according to the NII methodology, DNV-RP-G103. The theoretical guideline used during the analysis, DNV-RP-G103, was chosen since it is the acknowledged and recommended standard in the inspection industry, and it is also according to internal technical requirements in Statoil ASA. The thesis also includes a cost benefit assessment and discussion whether or not the methodology reduces the risks at for tail production field that has been in service for over 30-years.

Assuring asset integrity through improving the accuracy of leakage source identification of a permanently installed subsea leak detection system using artificial neural networks

Author: Tawan Pongkrajorn

Supervisor: Srividya Ajit

Partners: Helle A. Botnen (Stinger Technology AS)

Abstract: Environmental concerns and regulatory controls for oil and gas exploration and production activities have been increasing with the prospecting of deep-water fields and sensitive areas, such as the arctic seas. To stop any incidents developing into critical events, subsea leak detection systems are required for a fast, cost-effective, and reasonable accurate method to not only detect the leakage substance (in this case methane), but also to identify its source and location. This thesis evaluates approaches to extend the capabilities of such systems deploying methane sniffers (pinpoint sensors) in locating the leakage sources by combining their sensory information with advanced data analytics.

Using machine learning for exploratory data analysis and predictive models on large datasets

Author: Chengwei Xiao

Supervisor: Chunming Rong

Partners: Dr. Rui Maximo Esteves

Abstract: With the advent of the era of big data, machine learning has been widely used in many technologies and industries, which is able to get computers to learn without being explicitly programmed. As one of the fields of the supervised learning, some classical types of regression models, including the linear regression, nonlinear regression and regression trees, are discussed at first. And some representative algorithms in each category and their advantages and disadvantages are also illustrated as well. After that, the data pre-processing and resampling techniques, including data transformation, dimensionality reduction and k-fold cross-validation, are explained which can be used to improve the performance of the training model.

Using machine learning for exploratory data analysis and predictive modeling

Author: Jiaqi Ye

Supervisor: Chunming Rong

Partners: Dr. Rui Maximo Esteves

Abstract: Machine learning has become a powerful technique for predictive analytics, it can directly predict the dependent variable without focusing on the complex underlying relationships between predictors. Oil and gas industries has found these techniques very useful in their business such as oil well production prediction and equipment failure forecasting. Our work intends to build a predictive model based on data which can produce precise predictions and is efficient in practice. With this work we follow a methodology to build predictive models based on real data. The experiments focus on three machine learning algorithms, which are linear regression, neural network and k-nearest neighbors.

Secure sharing system with proxy re-encryption

Author: Morten Stangeland Salte

Supervisor: Chunming Rong, Chunlei Li

Abstract: This work introduces a new and secure mechanism for sharing files. In providing a complete implementation of a relatively recent cryptographic primitive known as proxy re-encryption, the thesis sharing system design enables file owners to store their private files in an arbitrary location while delegating access to others through the BitTorrent protocol.

Subcontractor management in directional drilling department of COSL

Author: Li Yanwei

Supervisor: Tore Markeset

Partners: (COSL)

Abstract: NA

Cost-efficiency analyses of offshore 3D seismic survey

Author: Liu Youjun

Supervisor: Tore Markeset

Partners: (COSL)

Abstract: The main objective of this project is to analyse the factors that affect the cost and efficiency during the offshore 3D seismic survey. Four parts will be discussed to support the main objective--the equipment, environment, decision making on the investment and human factors. These parts will analyze how those elements affect the cost and efficiency in 3D seismic surveys and how to optimize these effects during production. The study focus on examples from South China Sea working area to back up the argument.

Tilsynsstrategier innen petroleumsektoren i Norge og USA

Author: Monica Bekkeheien

Supervisor: Preben Hempel Lindøe

Abstract: This thesis evaluates supervision strategies within the petroleum sector in both Norway and USA. It looks to find an answer to which choices of supervision strategy can give different safeguards to offshore security in the respective countries. A document analysis was carried out to understand differences in supervision practices in Norway and the USA.

Medisinsk beredskap i Barentshavet sørøst

Author: Marie Therese Birkedal

Supervisor: Preben Hempel Lindøe

Abstract: Since 2011, an opening process for the Barent's Sea south-east (BaSø) is ongoing. In 2013, the area was partially opened. Interest in areas that were previously closed is now rising, however, a common approach to the extreme challenges one will face in BaSø has not yet been established. The area is immersed in ice, darkness, cold and arctic pressure. It is far from fast land and infrastructure is limited. Medical evaluation will take much longer than elsewhere in the NCS. Health staff will also have to deal with many more complex situations. With this context in mind, the purpose of this work is to take a closer look at what the demands are to satisfy medical requirements in BaSø.

The impact of biases on prospect evaluation and exploration decisions

Author: Viet Duc Pham

Supervisor: Reidar Brumer Bratvold

Abstract: Cognitive Biases often produce significant inconsistencies that lead to suboptimal exploration decisions. The central question investigated in this work is the impact of common biases on the oil and gas prospect evaluation and decision-making. We study this question by modeling and simulating the impact of the overconfidence bias and bias from trust heuristic. This allows us directly measuring the effect of the biases on the assessment of value as well as the impact on decision-making. We demonstrate that the tendency of being overconfident in our assessment of uncertainty has significant impact on the exploration decision and prospect evaluation.