

GUIDE ONE

THE BRITANNIA GROUP WHITE PAPER

ENHANCING DECISION-MAKING IN SAFETY-CRITICAL SITUATIONS



CONTENTS

GENERAL INTRODUCTION	3
A HOLISTIC APPROACH TO SAFETY IN THE MARITIME INDUSTRY	4
DECODING DECISION-MAKING	7
THEORETICAL PERSPECTIVES ON DECISION-MAKING	10
RATIONAL DECISION-MAKING MODELS	11
BEHAVIOURAL DECISION-MAKING MODELS	12
NATURALISTIC DECISION-MAKING	13
PSYCHODYNAMIC APPROACH	14
PROSPECT THEORY	16
SOCIAL PSYCHOLOGY IN DECISION-MAKING	18
ADAPTIVE DECISION-MAKING	19

WORKING IN THE MARITIME INDUSTRY, YOU ARE OFTEN FACED WITH COMPLEX AND CHALLENGING SITUATIONS WHERE IMMEDIATE, YET WELL-CONSIDERED, DECISIONS ARE IMPERATIVE.

Whether it's handling emergency procedures, navigating difficult weather, or coordinating with crew members, every choice can have far-reaching consequences for safety and operations. However, it's crucial to remember that decision-making isn't an isolated event that occurs in the heat of the moment.

Decision making is a process shaped by foundational skills, prior incidents, and the prevailing work culture on board. To address this holistic view, we have compiled four guides to equip maritime professionals like you with the knowledge and insights needed for better decision-making in safety-critical situations on board ships.

The guides will not only focus on the critical instant when a decision is made but will also explore the factors leading up to that moment, enhancing your readiness for future safety-critical situations.

This series comprises four key guides that will address cognitive and emotional aspects affecting safety-related decisions. But we don't stop there. The guides also cover how group dynamics, leadership, and organisational structures influence your choices.

Our approach is multifaceted. We incorporate diverse psychological theories to shed light on how decisions are made under various circumstances. From rational models to behavioural biases, we aim to give you a well-rounded understanding of the complexities involved.

The goal is not just to improve individual decision-making skills but also to encourage a collaborative work environment. We focus on the importance of open communication and respect within the team, while acknowledging the necessary hierarchies that exist on board.

While the series aims to be comprehensive, we know it won't cover every nuance. However, we'll offer practical insights, reflection points and exercises that encourage self-awareness and continuous learning. We hope these guides will serve as a useful starting point for you, inspiring further discussion and adaptation within your specific maritime context.

Thank you for joining us on this educational journey. We're committed to helping you develop the skills needed to support each other and enhance safety culture, both within your organisation and on board ships.

SAFETY-CRITICAL INCIDENTS IN THE MARITIME SECTOR ARE SITUATIONS WHERE A FAILURE IN DECISION-MAKING OR ACTION EXECUTION COULD LEAD TO SEVERE OUTCOMES SUCH AS ACCIDENTS, INJURIES, OR EVEN FATALITIES.

These high-stakes scenarios often arise in operations like navigation, machinery handling, emergency response, and hazardous cargo management. Given the industry's complexities, a comprehensive understanding of human factors, decision-making, and interpersonal dynamics is essential for workplace safety.

Decision-making in safety-critical situations is a complex and crucial process that involves making choices to minimise risks and protect human lives and the environment. Here are some of the key aspects to consider when making decisions in safety-critical scenarios:

RISK ASSESSMENT

The first step is to assess the risks involved in the situation. Identify potential hazards, evaluate their severity, and understand the likelihood of each hazard occurring. This analysis helps prioritise actions and resources.

SITUATIONAL AWARENESS

Maintaining a clear and accurate understanding of the current situation is vital. This involves gathering information from various sources, monitoring conditions, and anticipating potential changes or developments.

TRAINING AND PREPAREDNESS

Decision-makers in safety-critical roles should undergo rigorous training and be well-prepared for handling emergencies. Simulations, drills, and experience play a significant role in improving their ability to respond effectively.

DECISION-MAKING MODELS

Employ established decision-making models to structure the thought process. Common approaches include the OODA loop (Observe, Orient, Decide, Act), the DECIDE model (Define the problem, Establish criteria, Consider alternatives, Identify the best alternative, Develop and implement a plan, Evaluate and monitor the solution), RPD (Recognition-Primed Decision), and the Cynefin framework (for categorising problems based on their complexity).

COMMUNICATION

Effective communication is vital in safety-critical situations, especially when multiple parties are involved. Clear and concise information sharing helps ensure that everyone is on the same page and makes well-informed decisions.

TIME PRESSURE

Safety-critical situations often involve time constraints, and decision-makers must balance the need for quick action with thorough analysis. It's crucial to avoid rushing into decisions without proper evaluation.

REDUNDANCY AND CONTINGENCY PLANNING

Design systems with redundancy and backup plans in place to mitigate potential failures. This can help maintain critical functions even when primary systems encounter problems.

ETHICS AND VALUES

Decision-makers must consider ethical considerations and adhere to established safety protocols and standards. Balancing the potential risks with ethical and legal responsibilities is essential.

LEARN FROM PAST INCIDENTS

Analyse previous safety-critical incidents to understand the root causes and learn from them. This process of continuous improvement helps in avoiding similar mistakes in the future.

HUMAN FACTORS

Understand the limitations and cognitive biases that humans may experience during high-stress situations. Account for these factors in decision-making and design systems that support human performance.

CONTINUOUS EVALUATION

Decision-making in safety-critical situations is an iterative process. Continuously evaluate the effectiveness of decisions and adjust strategies based on real-time feedback and new information.

TEAMWORK AND COLLABORATION

Encourage effective teamwork and collaboration among individuals involved in safety-critical tasks. A cohesive team can make better decisions by pooling expertise and supporting each other.

In these guides we will focus mostly on the psychological factors and less on the technical and situational aspects.

NAVIGATING THE COMPLEXITY OF DECISION-MAKING IN HIGH-STAKES SCENARIOS

1. MULTIPLE VARIABLES

Decision-makers often have to consider a range of factors, including safety protocols, human factors, and resource limitations.

2. UNCERTAINTY

In many cases, all the needed information isn't available, or the situation is rapidly changing, adding a layer of uncertainty.

3. TIME PRESSURE

The need for quick decisions, especially in emergency situations, can make the process even more challenging.

4. COGNITIVE BIASES

Our minds are not always rational, and cognitive biases can affect the quality of the decisions made.

5. TEAM DYNAMICS

Decisions are often not made in isolation but involve multiple stakeholders, adding the complexity of interpersonal relationships and communication.

6. ETHICAL AND LEGAL CONSIDERATIONS

Balancing ethical obligations and legal responsibilities can complicate decision-making further.

7. SYSTEMS AND TOOLS

The use of decision-support systems can aid in making choices but can also add complexity, especially if not well-designed or understood.

8. TRAINING AND EXPERIENCE

Decision-makers with better training and more experience are generally better at handling complex situations, but training and experience can sometimes also lead to overconfidence.

9. FEEDBACK LOOPS

Decisions have consequences, and these outcomes can influence future decisions, creating a dynamic, iterative process.

INDIVIDUALS ARE WOVEN INTO A BROADER TAPESTRY THAT INCLUDES AN ORGANISATION'S CULTURE, TEAM DYNAMICS, AND THE WORK ENVIRONMENT ITSELF.

While factors such as personal expertise, experiences, and education mould each person's decision-making, it's essential to recognise the external influences such as leadership and team dynamics also play important roles.

Amidst this complex interplay, it becomes evident that focusing solely on the behaviour of an individual is insufficient. Instead, we must also focus on the broader conditions and factors influencing individuals. However, to grasp these influences, it is essential to have a deeper understanding of the individuals themselves.

In many workplaces, particularly those with rigid hierarchical structures, the flow of communication can be predominantly top-down, stifling innovation and leading to outdated safety measures. This type of atmosphere can make it difficult for people to speak up about safety concerns or suggest improvements.

To break down these barriers, it's crucial to encourage a culture that values active listening and questioning—a culture of care. Such an atmosphere should permeate every layer of the organisation, not just managerial levels. When care and concern for each other become integral elements of the culture, safety protocols are more likely to be followed. This is because people become invested in looking out for one another, not just because it's the 'right thing to do,' but because they genuinely care about each other's well-being. By fostering strong connections, we enable ourselves to help one another recognise potentially hazardous tasks and encourage open discussions when something seems amiss. Safety is a collaborative effort, and by working together, we create a safer environment for everyone.

No one has a monopoly on expertise. Collective intelligence, accumulated through open and frequent communication, becomes a crucial tool in advancing safety measures. When everyone feels empowered to share their perspectives, the organisation benefits from a feedback-rich culture essential for continuous improvement.

WHAT IS DECISION-MAKING? SIMPLY PUT, IT'S THE PROCESS OF CHOOSING BETWEEN DIFFERENT OPTIONS OR COURSES OF ACTION.

In more complex terms, decision-making involves a blend of cognitive and emotional processes that are influenced by various external and internal factors. This is especially crucial in high-stakes, safety-critical situations.

COGNITIVE PROCESSES IN DECISION-MAKING

At its core, decision-making involves a blend of cognitive processes influenced by external factors, internal beliefs, past experiences, training, and emotional responses. These cognitive processes are invaluable for making well-informed decisions, particularly in safety-critical situations like navigating a ship in stormy waters or responding to a medical emergency.

AUTOMATIC VS. DELIBERATE CHOICES

One key aspect is the distinction between automatic and deliberate decision-making. Automatic responses, like an engineer immediately responding to an alarm, are instinctual reactions developed through training and experience. In contrast, more deliberate choices require weighing potential outcomes and long-term consequences. For example, the captain of a ship might carefully evaluate the risk of sailing through a storm versus delaying the journey for safer conditions.

THE EMOTIONAL FACTOR

Beyond cognitive processes, emotions play a significant role in how we make decisions. Emotions can influence our perceptions and drive choices, especially in high-stake, safety-critical situations. While fear may lead a ship's captain to take a more cautious approach when navigating through rough seas, overconfidence could result in underestimating the dangers, thus putting the vessel and crew at risk.

THE ROLE OF HABITS

Habits also come into play. These are learned behaviours triggered by specific situations. A ship's captain, for instance, routinely consults the pre-departure checklist to make sure all essential safety protocols and equipment checks are completed before leaving port.

CONTEXTUAL FACTORS

It's important to note that decision-making isn't a one-size-fits-all process. Different contexts, such as varying levels of uncertainty in safety-critical situations, can significantly influence how decisions are made. Knowing this helps in planning for uncertainty, which is crucial for effective decision-making. Decision-making is a complex blend of cognitive processes, emotional influences, and habitual responses.

CASE STUDY

A container ship is departing from berth with a pilot on board. Due to a sudden squall, the turning manoeuvre does not go as planned. The master becomes concerned and takes control from the pilot – however, they do not have sufficient situational awareness and it is very late for him to react, given the ship's inertia.

To avoid collision with barges moored behind the ship, he issues several engine, rudder, bow thruster and anchor orders in quick succession, which turn out to be ineffective and the ship makes contact with one of the barges anyway. However, in result of these earlier orders taken under the pressure of time to avoid barge contact, the ship now moves ahead and also collides with two container gantry cranes on the berth ahead. This results in a very expensive damage claim.

The case study (left) is a complex situation that involves multiple factors influencing decision-making. Here are some key psychological aspects to consider:

COGNITIVE BIASES AND HEURISTICS

1. OVERCONFIDENCE BIAS

Both the master and the pilot may have overestimated their own skills in dealing with a tricky situation.

2. RECENCY BIAS

The pilot and master might have successfully manoeuvred ships in less challenging conditions recently, which could lead them to underestimate the risk posed by the sudden squall.

STRESS AND ANXIETY

1. HIGH-STRESS SITUATION

The sudden change in conditions due to the squall would likely induce a high-stress environment, which can limit cognitive function and lead to poor decision-making.

2. TUNNEL VISION

Stress often leads to a narrowing of focus, which may have caused the master to overlook other potential solutions or risks, such as the gantry cranes ahead.

TIME PRESSURE

1. DECISION FATIGUE

Both the master and the pilot would be prone to decision fatigue given the rapidly changing scenario, which degrades the quality of decisions over time.

2. SNAP JUDGMENTS

With little time to weigh options, the master may have relied on instinct rather than careful analysis, leading to ineffective engine, rudder, bow thruster, and anchor orders.

AUTHORITY AND HIERARCHY

1. POWER DISTANCE

The master's decision to take over from the pilot may have been influenced by the hierarchical nature of ship operation, where the master may feel ultimately responsible and thus more pressured to take control in a dire situation.

2. SOCIAL INFLUENCE

The presence of the pilot and crew can exert social pressure on the master, either supporting or challenging the rapid decisions being made.

SITUATIONAL AWARENESS

1. LACK OF COMPLETE INFORMATION

The master had insufficient situational awareness, which severely impacts the ability to make sound decisions.

2. COMPLEXITY

The master had to keep track of multiple variables—engine speed, rudder angle, bow thruster, and anchor—which adds cognitive load and can lead to errors or oversights.

CONSEQUENCES AND RISK AVERSION

1. LOSS AVERSION

The master might have been more focused on avoiding the immediate loss (collision with the barge) that he failed to consider other risks (collision with gantry cranes).

COMMUNICATION

1. LACK OF COORDINATION

Effective decision-making in such scenarios often requires seamless communication between the pilot and the master, which seems to have broken down in this case.

The case illustrates some of the complexity involved in decision-making. We will delve more into these aspects. (See Theoretical Perspectives p.10).

UNDERSTANDING HOW DECISIONS ARE MADE IS CRUCIAL FOR ENHANCING SAFETY AND EFFECTIVENESS IN VARIOUS ENVIRONMENTS, INCLUDING THOSE THAT ARE SAFETY-CRITICAL.

However, decision-making is not a one-size-fits-all process; it's shaped by a multitude of factors that range from logical reasoning to emotional responses.

In this section, we'll delve into six key theories that offer different lenses through which to understand the complex nature of decision-making.

SIX KEY THEORIES IN UNDERSTANDING DECISION-MAKING

Understanding decision-making is a complex subject that incorporates insights from various disciplines and theories. Here are six essential perspectives that inform how we make choices:

1. RATIONAL DECISION-MAKING MODELS

This theory lays the foundation for decision-making, advocating for a systematic analysis and logical evaluation of options.

2. BEHAVIOURAL DECISION-MAKING MODELS

This approach takes into account cognitive biases, heuristics, and social factors, adding depth and nuance to the rational model.

3. NATURALISTIC DECISION-MAKING

This theory bridges rational and behavioural approaches, focusing on the role of intuition, pattern recognition, and expertise in decision-making.

4. PSYCHODYNAMIC APPROACH

This perspective delves deep into the unconscious mind to explore how past experiences, defence mechanisms, and hidden motivations influence choices.

5. PROSPECT THEORY

This theory examines how people evaluate potential gains and losses, shedding light on risk perception and the role of emotions in decision-making.

6. SOCIAL PSYCHOLOGY

A critical addition to the list, social psychology explores how group dynamics, social norms, and cultural context influence individual decision-making. It helps us understand how peer pressure, leadership styles, and groupthink can either enhance or hinder our ability to make well-informed choices.

RATIONAL MODELS SUGGEST THAT MAKING DECISIONS INVOLVES A STEP-BY-STEP PROCESS WHERE LOGIC AND CAREFUL EVALUATION OF INFORMATION TAKE CENTRE STAGE.

The idea is that people aim to get the best outcome possible- whether that's saving money, time, or ensuring safety. For example, if you're looking to buy a car, you'd typically check out various options, comparing factors like cost, fuel efficiency, and safety features to make an informed decision.

However, in high-pressure, fast-moving situations, like those in maritime settings, the ideal of rational decision-making can be hard to achieve. Here, captains and their crews often have to make quick decisions based on limited information to ensure safety.



EXAMPLE

Before a sea voyage, a ship's captain and crew will look at weather reports, navigational charts, and possible routes. They use all this info to decide on the safest and quickest path for their journey.

ANCHORING BIAS EXAMPLE

If the first route option presented seems quickest, a captain might not fully consider alternate routes that could be safer.

COGNITIVE BIASES AND BOUNDED RATIONALITY

We'd like to think we're always rational, but that is not the case. Cognitive biases are these mental 'blind spots' that can affect our judgment. You've probably heard of some of these, like confirmation bias, where we only pay attention to info that confirms what we already think, or anchoring bias, where the first piece of information we get overly influences us.

BALANCING RATIONALITY AND QUICK THINKING

In situations where every second counts, like in a safety-critical environment, sometimes you have to rely on quick, intuitive thinking. These are known as heuristics—mental shortcuts that help us make rapid decisions. But the trick is to balance this quick thinking with rational, deliberate analysis when time allows.

In summary, rational decision-making gives us a structured way to approach problems, but it's not always feasible in high-pressure situations. By understanding the limits and challenges of rational thinking, as well as being aware of biases, we can make better, safer decisions when it really counts.

BEHAVIOURAL MODELS SHOW THAT DECISION-MAKING ISN'T ALWAYS PURELY RATIONAL.

Factors like cognitive biases, quick mental shortcuts (heuristics), and social pressures can skew our choices, especially in high-stress situations like maritime emergencies.

COGNITIVE BIASES

As mentioned above cognitive biases are mental 'blind spots' that can lead us astray. For example, availability bias has us relying on the most immediate information, even if it's incomplete.

EXAMPLE

In a ship emergency, time pressure and conflicting information might make the crew lean on these biases, resulting in less-than-ideal decisions.

HEURISTICS

Heuristics are like mental shortcuts that help us decide quickly. But these can be a double-edged sword-quick doesn't always mean accurate. For instance, if a particular brand is trusted, crew members may assume all products from that brand are equally reliable, which isn't necessarily true.

SOCIAL INFLUENCES

Social factors can also cloud judgment. Groupthink, where everyone goes along with the group to keep the peace, can suppress critical thinking and lead to poor decisions. Likewise, bowing to authority figures or group norms can stifle dissent, especially in high-stakes, safety-critical settings.

MITIGATING BIASES

Knowing these behavioural influences can help us counteract them. Tools that present data clearly can help, as can training programs that make crew aware of these biases.

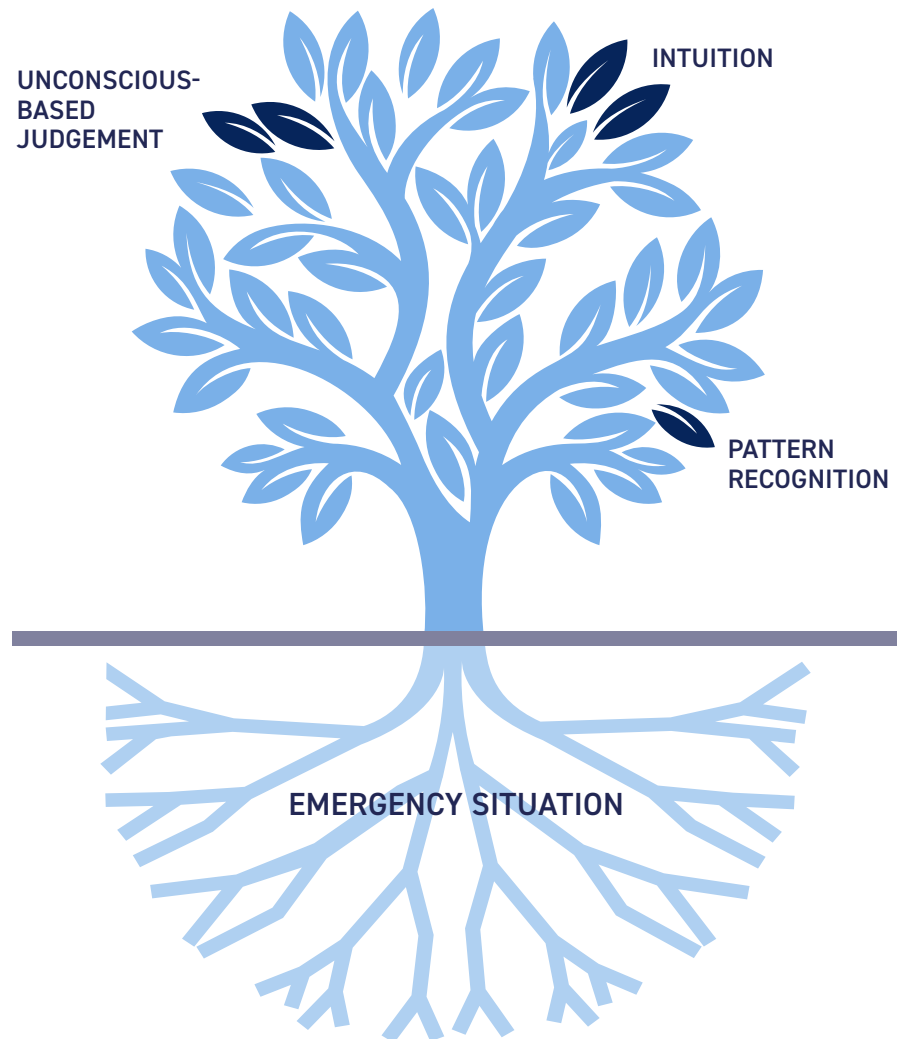
A SUPPORTIVE CULTURE

A workplace that encourages open dialogue and values different perspectives can help decision-makers challenge assumptions and make wiser choices, enhancing safety and outcomes.

In summary, by understanding and mitigating the influences of biases, heuristics, and social pressures, both individuals and organisations can make more informed decisions in critical situations, contributing to better safety outcomes.

NATURALISTIC DECISION-MAKING FOCUSES ON HOW SEASONED EXPERTS MAKE QUICK, EFFECTIVE DECISIONS IN FAST-PACED, REAL-WORLD SETTINGS LIKE MARITIME EMERGENCIES.

Gary Klein's research has particularly focused on understanding the intuitive and experiential aspects of decision-making.



EXPERTISE AND INTUITION: THE DYNAMIC DUO

Expertise is the bank of skills and knowledge you build up over years in a particular field. In contrast, **intuition** is the ability to make snap judgments based on this expertise, without needing to go through a lengthy thought process. This combination allows professionals in high-risk jobs, like maritime captains or emergency responders, to make split-second decisions that are usually on the mark.

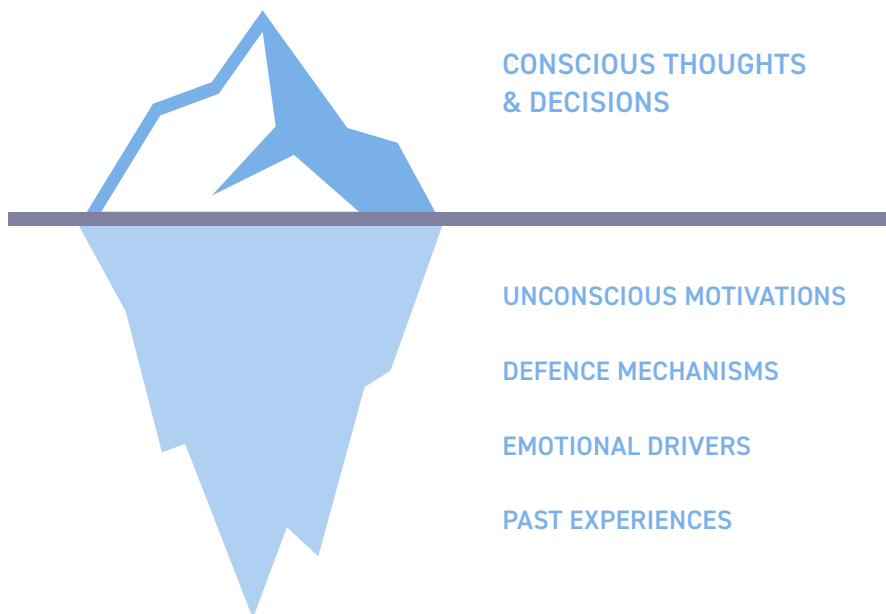
EXAMPLE

Imagine a ship's captain and experienced crew dealing with a sudden engine failure at sea. There's no time to read manuals or do a deep analysis. Using their intuition and expertise, they instantly assess the situation, activate backup power, and kick-start emergency procedures. This swift and effective response showcases the strengths of naturalistic decision-making.

In summary, naturalistic decision-making relies on a blend of hard-earned expertise and sharp intuition to enable quick and effective choices in high-stress, complex scenarios. It underscores the value of experience and instinctual judgment in making vital decisions, especially in safety-critical environments.

THE PSYCHODYNAMIC APPROACH DIGS DEEP INTO THE UNCONSCIOUS MIND TO UNDERSTAND HOW HIDDEN EMOTIONS, PAST EXPERIENCES, AND MOTIVATIONS SHAPE OUR CHOICES.

Rooted in Freud's psychoanalytic theory, this perspective helps us grasp why we make certain decisions, especially in stressful, high-stakes situations.



The iceberg visual effectively captures the essence of the psychodynamic theory: a lot goes on under the surface that affects our visible behaviour and decisions. It's a familiar image that can quickly and clearly convey complex ideas, simplifying it for those who aren't familiar with psychology.

UNCONSCIOUS MOTIVATIONS AND PATTERNS

According to the psychodynamic perspective, decision-making is influenced by unconscious motivations, desires, and fears. Individuals may not be fully aware of these underlying factors, yet they exert a profound impact on their choices. Past experiences and early childhood relationships shape these unconscious patterns, and they can resurface during decision-making, leading to seemingly irrational or inexplicable choices.

EXAMPLE

A crew member might hold back from raising safety issues because they've been shot down or ignored before. This unconscious fear can impact their contribution to vital group decisions.

MIND'S SAFETY NET DEFENCE MECHANISMS

The psychodynamic theory also explores defence mechanisms- which are coping strategies that protect us from stress or anxiety. These mechanisms can distort how we perceive information or risks, affecting our choices. For example, denial could make us ignore potential dangers, while projection might lead us to put our fears onto others, dodging personal responsibility.

EMOTIONAL DYNAMICS TRANSFERENCE AND COUNTERTRANSFERENCE

The psychodynamic approach considers dynamics such as transference and countertransference. Transference occurs when individuals project feelings or attitudes they have towards authority figures or past experiences onto others in the group. Countertransference, on the other hand, refers to the responses elicited in the decision-maker by one or more group members. Both can significantly impact group dynamics and the decision-making process.

EXPLORING THE UNCONSCIOUS IN DECISION-MAKING

Understanding the psychodynamic perspective provides decision-makers with insight into the deeper layers of their minds. By exploring their unconscious motivations and defence mechanisms, individuals can gain greater self-awareness. This introspection allows them to identify potential biases and emotional influences that may distort their judgment in safety-critical situations.

ROLE OF EMOTIONS AND EMOTIONAL INTELLIGENCE

Emotions play a central role in the psychodynamic approach, and emotional intelligence becomes essential in decision-making. Emotionally intelligent decision-makers can recognise and manage their emotions, which can lead to more balanced and thoughtful choices. Embracing vulnerability and openness to emotions can create a more holistic decision-making process.

APPLYING PSYCHODYNAMIC INSIGHTS FOR SAFETY

In high-pressure environments, understanding your own and your team's emotional landscape can make decision-making more effective. Creating a culture where people feel safe to express doubts or concerns can lead to better, more informed choices.

In summary, the psychodynamic approach gives us a lens to look deeper into the complexities of decision-making. By understanding unconscious motivations and emotional influences, decision-makers can navigate challenges more effectively.

Developed by Daniel Kahneman and Amos Tversky, Prospect Theory argues that the way choices are framed and the perception of potential gains or losses significantly influence decision-making. For instance, people are often more cautious when they stand to gain and more willing to take risks when they might lose. In safety-critical scenarios, this theory offers insights into risk perception and can help frame choices to encourage safer outcomes.

EXAMPLE

You'd likely feel worse about losing \$100 than you would feel good about finding \$100. In maritime settings, ship captains tend to be cautious when navigating risky waters, valuing the potential losses over any possible gains.

HEALTH AND SAFETY IMPLICATIONS

Prospect Theory helps us understand how individuals assess risks. People's risk evaluations aren't solely based on logic; emotions and personal experience play a role too.

RISK PERCEPTION

People's perception of risk varies due to past experiences, emotions, and potential outcomes. Some risks might seem more severe than others, even if the actual odds are low.

LOSS AVERSION

Fear of negative outcomes often trumps the allure of potential benefits. This is especially true in health and safety contexts where the risks might involve injury or loss of life.

REFERENCE POINT

People compare risks to a baseline or reference point, influenced by past experiences or cultural norms. Deviations from this reference point can shift their decision-making.

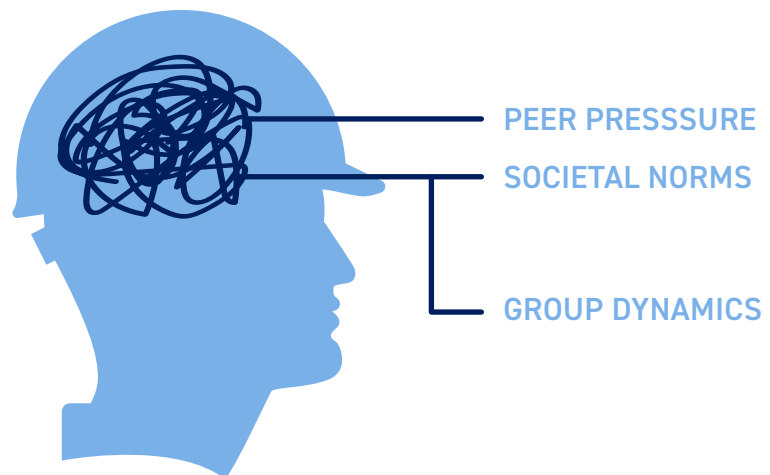
SOCIAL PSYCHOLOGY STUDIES HOW PEOPLE'S THOUGHTS, FEELINGS, AND BEHAVIOURS ARE INFLUENCED BY THE PRESENCE AND ACTIONS OF OTHERS.

When it comes to decision-making in safety-critical environments, understanding the social psychology aspects can provide significant insights.

EXAMPLE

During a ship inspection, a junior crew member notices a potential safety hazard but hesitates to speak up due to the presence of higher-ranking officers.

By incorporating an understanding of social psychology, safety-critical decision-making can be enhanced. Recognising the impacts of group behaviour social norms, and power structures can help individuals and teams make more informed and cautious decisions.



GROUP DYNAMICS

In a group setting, people often make decisions based on collective opinions, sometimes sacrificing individual thoughts for group harmony. This phenomenon is known as "groupthink," and it can be a significant factor when team members avoid speaking up about safety concerns.

SOCIAL NORMS

Social norms are unwritten rules that govern behaviour in a group or society. Understanding these norms is crucial because they often influence people's decisions about what is 'safe' or 'risky' behaviour.

SOCIETAL INFLUENCE

People's decisions are often shaped by the opinions or actions of others, such as authorities or peers. The desire to conform or gain approval can have a significant impact on safety-critical decisions.

LEADERSHIP IMPACT

The role of a leader in a group can't be understated. Leaders set the tone for group behaviour and decision-making. In safety-critical situations, the leadership style can either encourage open dialogue about risks or hinder it.

RESPONSIBILITY DIFFUSION

In a group setting, people may feel less personally accountable for collective decisions. This diffusion of responsibility can lead to risky choices, as individuals assume someone else will take the responsibility for safety precautions.

RESPONSIBILITY DIFFUSION

In a group setting, people may feel less personally accountable for collective decisions. This diffusion of responsibility can lead to risky choices, as individuals assume someone else will take the responsibility for safety precautions.

POWER DYNAMICS

Understanding the balance of power within a group is essential, especially in a hierarchical setting like a ship crew. Power dynamics can influence who speaks up, who listens, and whose opinions are valued in decision-making.

ADAPTIVE DECISION-MAKING FOCUSES ON THE ABILITY TO CHANGE DECISION STRATEGIES IN RESPONSE TO EVOLVING CIRCUMSTANCES.

In safety-critical situations, rigid adherence to a single decision-making model may not always be effective, making adaptability a key asset.

This approach considers both the internal and external factors affecting a decision, including the state of the decision-maker, the team's dynamics, and the environment.

EXAMPLE

During a severe storm at sea, a vessel's captain might initially follow standard safety procedures. However, upon realising the storm is intensifying and not following predicted patterns, they might adapt their decision-making approach, drawing from other models like naturalistic or behavioural decision-making, to ensure the crew's safety.

DECISION FLEXIBILITY

Adaptive decision-making values the ability to switch between different decision-making models depending on the situation. For example, in less urgent scenarios, a more analytical approach may be suitable, while in emergencies, naturalistic decision-making could be more effective.

CONTINUOUS LEARNING

Adaptive decision-makers learn from both successes and failures, updating their decision-making strategies accordingly. This learning process is ongoing, allowing for enhanced performance in future safety-critical scenarios.

COLLABORATIVE ADAPTATION

In a team setting, adaptive decision-making encourages open communication and the sharing of insights. This collective intelligence can be vital in navigating complex situations and arriving at the most appropriate decision.

REAL-TIME ASSESSMENT

A key feature of adaptive decision-making is the constant evaluation of the situation and the decision-making process itself. This allows for quick alterations in strategy if the initial approach proves to be ineffective.

By adopting an adaptive approach, individuals and organisations can be better prepared for the unpredictable nature of safety-critical situations, improving both decision quality and overall safety outcomes.

DEEPENING YOUR DECISION-MAKING AWARENESS

Self-awareness is the first step towards making better decisions. By engaging with the reflection points (right), you'll not only better understand your personal decision-making styles but also how they fit within the broader psychological and behavioural theories discussed. This offers a comprehensive way to refine your decision-making skills in both personal and professional settings.

1. IDENTIFY YOUR DECISION-MAKING STYLES

Reflect on the types of decisions that frequently occupy your mind.

Are these related to work, personal life, health, or finances?

Try to classify these decisions based on the theories discussed in this guide, such as naturalistic, psychodynamic, or prospect theory.

Which approach or model best describes how you often make decisions?

2. RECOGNISE HABIT-DRIVEN DECISIONS

Think about situations where your choices seem automatic or habit-driven.

Are these daily routines, like choosing what to eat for breakfast, or perhaps work tasks where you rely on set procedures and past experiences?

How does your reliance on habits align with naturalistic decision-making or other models that emphasise the role of experience?

3. UNCOVER UNCONSCIOUS INFLUENCES

Are there decisions you make subconsciously that you'd like to become more aware of?

Consider areas in your work, such as time management or teamwork, where unconscious influences like psychodynamic factors or emotional dynamics might be affecting your choices.

Do you notice any defence mechanisms at play?

4. ASSESS RISK PERCEPTION AND LOSS AVERSION

Recall a situation where you had to evaluate risks and benefits.

Did you find yourself leaning more towards avoiding losses rather than acquiring gains?

How can you become more conscious of your tendencies in future decisions?

5. EMOTIONAL INTELLIGENCE AND GROUP DYNAMICS

Think about a time when emotional intelligence played a role in your decision-making.

Were you aware of your emotions and those of others?

How did this awareness influence the group dynamics and the final decision?

6. ADAPTABILITY IN DECISION-MAKING

Have you faced situations where you had to adapt your decision-making style due to changing circumstances?

How did you manage it, and which model would best describe your approach?