

## Purposeful Resilience on Capital Projects



Image courtesy of [New Straits Times](#) / AFP

### Foreword:

Capital projects are challenging (and also rewarding) to undertake. They are usually large in size and scope, include firsts-of-a-kind (or “FOAKs”), involve a large and varied supply chain, they are complex, and they have a dynamic project lifecycle that usually stretches out over many years. Over its lifecycle, a capital project, its stakeholders and its eco-system can experience a great deal of change, and events that cause problems (including perhaps crisis events and other forms of disruption). Many of these events will test the resilience of the people involved.

Resilience can mean different things, depending on the context in which it is being looked at. For teams that manage capital projects, and all the organisations that are involved in them, one perspective on resilience is this: how everyone involved collectively anticipates, absorbs and adapts in a purposeful way to changes and events that impact the project environment, including the project value chain and all external stakeholders.

Achieving a “purposeful state of resilience” requires people on the project to work together to look ahead, plan, anticipate and adapt to change and circumstances. As this paper describes, achieving a good state of project resilience can benefit the whole project value chain and its eco-system, protecting and creating purposeful value for all stakeholders.

## The value of purposeful resilience in today's world



Image courtesy of [Pixabay](#): the road ahead

The ISO standard, ISO 22300:2018, defines resilience as the *ability to absorb and adapt in a changing environment*. Note that it does not specifically focus on negative changes to an environment – though this is clearly a major focus area for resilience.

Capital project teams that demonstrate a culture and a good state of resilience have people who are adept at looking ahead, planning, anticipating, adapting, and responding effectively to change and events (and, indeed, absorbing impacts in a changing environment). The people in such teams are ready for, and often anticipate or see change and events occurring on the horizon. They have an innate appreciation for the velocity at which different types of change and events can occur, or are already occurring, and they care about the impacts that change and events can and will have on people and their wellbeing. They have a good understanding of their project eco-system and value chain and the resilience it has, and the actions required to maintain a good state of resilience. They also know that actions to ensure meaningful and purposeful resilience sometimes require foregoing short-term financial / material gains to the project in order to achieve long-term sustainable success.

The calendar year 2020 has seen capital projects in all sectors around the world being tested with difficult challenges as they tackle risks, issues and events caused by the COVID-19 pandemic. These challenges are affecting project cost, scope, quality and schedule objectives in various ways. Project teams, and the organisations that combine to achieve them, each face different challenges depending on their specific context – including where they are geographically, government / authority imposed working and travel restrictions, the nature and complexity of their value chain and many other factors. As project teams tackle the many challenges they face, demonstrating purposeful resilience means prioritising

the wellbeing, health and safety of people, and coupling this with a commitment to achieving meaningful sustainability outcomes, and innovation.

By demonstrating purposeful resilience as we work towards achieving project goals and objectives, and ensuring that people, businesses and communities involved in the project are properly supported in tough times, we demonstrate values and a project culture that can lead to long-term, truly sustainable outcomes.

The opposite of a project team that has people who demonstrate a good state of resilience and care for others is a team that is focused purely on commercials, short-term financial drivers and schedule. Whilst such a focus might enable short-term commercial challenges to be dealt with, the behaviours and actions that are on display in such cases are unlikely to foster a culture of care and commitment by everyone working on the project. A sole focus on short-term financial and schedule drivers does not reflect a rounded approach to purposeful resilience nor does it support a guiding purpose that the project is setting out to achieve.

### Some pointers about resilience and capital projects

1. Capital projects are challenging (and rewarding) to undertake. There are many factors involved to ensuring success – and understanding project complexity, managing risk and demonstrating a good state of resilience are important factors.
2. Capital projects, and the businesses and public sector bodies that are involved in them, exist in an eco-system and depend on a value chain that is dynamic and interconnected – which represents threats and opportunities associated with resilience.
3. Understanding the dynamism and velocity of project risks within your eco-system is an important part of making decisions and implementing actions to achieve project objectives, and project success, aided by a good state of resilience.
  - Some risks can be anticipated; others are “novel”.
  - Some risks, if they turn into issues or major events, can ripple through the whole project eco-system quickly; others can be contained.
  - Some risks are smaller and / or slower in velocity than others, but can be large in their potential impact (by their own, or combined with other risks).
4. Resilience helps us be ready for change and potential events (including crisis events) or disruption throughout a project’s lifecycle. Sometimes change can be anticipated, and teams managing capital projects typically have strong change management processes in place. Resilience is about being agile to adapt to change, events or disruption (be it sudden or gradual), in an appropriate way. Without a state of readiness, crisis events and major disruption can catch project teams off guard. The way project parties in the eco-system work together is key to demonstrating successful agility and adaptability.
5. Whilst we cannot plan for or anticipate everything that we would do in the face of a sudden and unanticipated change, event or disruption, by adopting good resilience principles that help us maintain flexibility and be prepared to act and adapt, we can demonstrate true purpose (including for society and sustainability) when a major change, an event (including a crisis event) or disruption occurs. A demonstration of genuine purpose applies right across the project eco-system – the value chain, and the communities and stakeholders that the project supports and impacts.

## **Purposeful resilience is focused on people and sustainability**

Purposeful resilience on capital projects should focus first and foremost on people and their wellbeing, and a commitment to achieving sustainable outcomes for the project, the local community and the broader environment. Of course, we know that capital projects have tangible financial and time-based targets to meet. When these targets are linked to a true purpose – to clearly articulate “a powerful Why” to achieving them – people can be inspired, including when times are tough.

Placing people at the heart of your activities to achieve a good state of resilience means ensuring you do what you can to support the physical and mental wellbeing of everyone in your project stakeholder network. This includes having the best wellbeing resources and support in place for people at any time.

Purposeful resilience means empowering and supporting people to achieve sustainable outcomes – which, as mentioned earlier, may require foregoing short-term financial / material gains in order to achieve long-term sustainable success.

In the midst of the commitment to achieve project objectives with scarce resources, how can we ensure that a desire to “be resilient and purposeful” on a capital project results in practical actions that add sustainable value for people, society and the planet? We need to show trust in people, allowing them to adapt and innovate within a framework and in a manner that fits the project’s context and its commitments. As businesses and their partners across the project value chain scan the horizon and adapt to a changing environment, opportunities for innovative ways of achieving a good state of resilience can be found. Sometimes, such innovation is a result of what may be termed “creative desperation”, when things urgently need to be addressed. At other times, it is a result of having a continuous improvement mindset, learning from what’s missing or not working and correcting problems early, to stop them becoming bigger issues.

## **Project resilience and the value chain**

Ensuring full and open visibility of project value chain relationships helps you to understand [project value chain complexity](#) and to manage [value chain resilience](#) (as well as other aspects of value and supply chain management, such as managing ethical and sustainable sourcing commitments). Value chain visibility needs to be coupled with having a proactive project culture in place – without this type of culture, important areas of vulnerability may remain hidden. Culture, of course, links directly to people’s behaviour and actions, which is another reason why a people-focused approach to resilience is so important.

Achieving a state of purposeful project resilience with your value chain is about ensuring you have the right degree of agility, adaptability and control in your project structure and your project eco-system. The goal is to find the right balance of being nimble and responsive to change and disruption when you need to be, whilst maintaining the appropriate level of control. It isn’t easy to find the right balance between rigour and control, and it requires constant maintenance as the project changes during its lifecycle and suppliers and partners join and leave. It is vital to

understand the linkages across the project value chain of client(s), contractors and suppliers, and the flexibility that is built into them. Contract management, procurement processes, the management of counterparty risk and change control are some elements of a formal project structure (the “control” elements). Coupled with this are the day-to-day relationships that exist between project parties, which enable us to efficiently and effectively work through challenges, solve problems and see opportunities on a day-to-day level.

Understanding the resilience across your project value chain therefore means understanding **all** the relationships and connections that exist within it. Three questions can be considered towards this:

1. Is your value chain mapped, do you maintain this mapping, and do you know the state of resilience across it?
2. Are any “critical dependencies” hidden away from the project lead team’s view because they have a contractual relationship deep in the value chain that you do not have visibility of?
3. Are there any clusters of closely connected suppliers / partners based in high risk geographies or materials sectors, which give rise to a risk of supply bottlenecks occurring? If so, are your buffer stocks and / or alternative options for supply-side resilience thought through and maintained?

### **Purposeful resilience means constantly scanning for threats and opportunities**



Image courtesy of [Pixabay](#): radar dish

Our state of resilience needs to consider our landscape of threats and opportunities. We should seek out diverse views on potential scenarios, situations and events that could change, disrupt or perhaps speed up and enhance our ability to achieve sustainable success. Stakeholder forums and reviews involving a broad range of parties connected to the project can help us to understand diverse views and perspectives. In such forums, it is vital to ensure there is a “psychologically safe environment” for everyone to speak freely. Everyone involved must listen to and respect different views and be aware of their own biases.

## Purposeful resilience pointers

With these principles in mind, here are some points to consider:

1. Does our project team understand its resilience threats and opportunities?
2. Do we have a good culture that helps us to look ahead, plan, anticipate, adapt, and respond effectively to events and change?
3. Do we focus enough on supporting and empowering people to ensure a good state of resilience?
4. Do we agree on techniques we can use to understand and take action towards ensuring a state of purposeful resilience?
5. Does our project change management process help us to maintain a good state of resilience?
6. Are we working with parties across our project value chain to ensure there is a common understanding, clarity and agreement on how to achieve good resilience?
7. Do we regularly review our project objectives against our resilience capacity to change, potential events and disruption?
8. Are we harnessing the support available from businesses involved in our project?
9. Do we use expertise and “the outside-in view” of others to help us – e.g. a PMO or Portfolio team in our organisation, a peer review with another project team, or an external expert or consultant?

## A framework and techniques to help you maintain a good state of resilience

A practical framework for purposeful resilience can add value. ISO and national standards (which are not project-specific) offer general guidance on such frameworks, and the organisations responsible for managing capital projects may already have such frameworks in place and available for project teams to use. ISO 22301 (Security and resilience – Business continuity management systems – Requirements) and the accompanying standards 22300, 22313, 22316 plus ISO/TS (Technical Standards) 22317, 22318 and 22330 (note: 22330 focuses on guidelines for “people aspects of business continuity”) offer guidance for resilience and business continuity, and link to other standards such as ISO/IEC 27001 and ISO 31000. The context of your project is key to determining how best to use any standards and guidelines.

As part of a framework for resilience, tools and techniques that we use for risk management, and general strategy and project management can help us to maintain a good state of resilience. Some examples of tools and techniques are listed below:

*1. Project Impact Analysis / Business Impact Analysis*  
*Mapping and understanding the criticality of all project activities is a good starting point for understanding your project state of resilience. Are there certain activities or project requirements that, if they break, they become unavailable or they stop working, halt all of or a large part of the project? Different techniques are available to help you to map your processes out – one is to use an Impact Analysis approach described in ISO 22317. The most important thing is to ensure the mapping is owned by the project team, and that the team gains value from doing it (for example, identifying previously hidden single points of dependency, to be strengthened).*

## *2. Stakeholder mapping*

Linked to understanding your project activities is the understanding of your network of stakeholders in your project eco-system, and the resilience that exists in this network. This mapping can show where you may have potential areas of vulnerability – and also to learn from areas that are working well (and could perhaps be re-used elsewhere). Areas of vulnerability may be “two or three, or more, nodes along a branch of activity” or Work Breakdown Structure. For the suppliers and contractors you work with that are critical, do you and they have good resilience in place, with “plan Bs and Cs” in place in case circumstances change?

## *3. Horizon scanning*

Horizon scanning looks at the external environment, and what might be coming up that could affect you. The OECD defines horizon scanning as a technique for detecting early signs of potentially important developments through a systematic examination of potential threats and opportunities, with emphasis on new technology and its effects on the issue at hand. They describe that it explores novel and unexpected issues as well as persistent problems and trends, including matters at the margins of current thinking that challenge past assumptions.

Horizon scanning has a natural link to scenario analysis. It includes looking at “weak signals” that are not immediately obvious, of possible changes and events “on the horizon”.

## *4. Scenario Analysis*

Scenario Analysis is a valuable technique to discuss how change and/or events or disruption could occur, and what we would do if it did. It adds most value when it is done regularly for a constant exploration of ideas, not as a one-off or an occasional exercise. By regularly looking at a suitable number and range of plausible scenarios in which we properly immerse ourselves in the possibilities (and not dismissing those that you may think of as ‘outliers’) in an unbiased way, you can stress test your ability to respond to major changes or events (e.g. “perfect storm” events), and review whether you have good “plan B’s and C’s” in place. One form of scenario analysis that can be useful for assessing project resilience is a PreMortem – [click here](#) for more information.

## *5. ‘What if?’ Decision Trees*

You might not call options analysis by this name, but by plotting out different paths of how events, chance and decisions might take shape (whilst knowing that we can’t predict precisely how events may occur – so not falling into “confirmation bias”) and your ability to respond, you may find Decision Trees to be a valuable technique.

## *6. Bow-tie analysis*

In certain circumstances, Bow-tie analysis can be a useful way to look at specific resilience threats, and the controls that should be implemented to deal with them. For example, if you have an extended ‘denial of access’ to your project site, what specific proactive / preventative and reactive / mitigating controls do you need in place to continue operating as close to normal as possible (and how effective are these controls)?

## *7. Quantitative Risk Analysis (QRA)*

*Judicious use of QRA for reviews of achieving cost and time objectives (using appropriate technology tools and data) can help us to assess our resilience to potential different events occurring, and the resilience of project objectives to such events. QRA can be used in conjunction with Scenario Analysis, and techniques such as Decision Trees.*

#### 8. Project Change Management

Project change management is a fundamental part of managing a project well. As well as the importance that change management plays in maintaining control as the project progresses, it can also play a valuable part in maintaining a good state of resilience.

#### 9. Project Business Continuity Plans

Practical Business Continuity Plans (BCPs) can help you define what you would do to maintain / restore activities (particularly critical activities) if there is a disruption of some sort to the project. BCPs should be informed by a good risk assessment and Project / Business Impact Analysis. How people work together to respond to disruption is key. You don't want things to fall through gaps between different project parties (which relates to the first point in this article, about your project structure).

#### 10. Project Crisis Management Plans

Practical Crisis Management Plans (CMPs) can help you define what you would do in the event of a crisis event occurring. It is critical that people can respond and work together to a crisis event. You never want such events to occur, but it is important to be ready to respond if they do (and be supported by the organisations behind the project).

An important point about using any tool or technique is to always ensure that it is used in context to contribute towards your resilience strategy, and to help towards your overall project objectives.

### **Be prepared – and ready – to demonstrate purposeful resilience**

Capital project teams should be prepared and ready to act in a *purposeful way* when change or a disruption event occurs, and by doing so demonstrate the values that their project represents.

As we have already said, achieving a good state of resilience readiness starts with putting people first. If they are given the time and resources to plan and be ready, they can demonstrate resilience. Remember that, as we highlighted earlier, it is important to have a project structure that has a good balance of flexibility and control, to allow teams of different stakeholders to come together and work quickly, in concert, and with purpose.

Data analytics can help us to be prepared for change in complex capital project environments. In today's data-rich world, you may gain some good insights from data analytics to help towards actions and activities to maintain a good state of resilience.

Rather than actions to achieve a good state of resilience being stand-alone, or occasional, or something that is the remit of a single team, they are most effective when they are embedded into the regular rhythm of the project activities – which means ensuring that a broad cross-section of the team is regularly involved in them. Sometimes it helps to have a resilience practitioner to facilitate discussions to help to tie things together, but it should always be the project team that owns their resilience planning and activities.

A Plan-Do-Check-Act (PDCA) model is a good, simple approach to take. PDCA is about planning actions and undertaking them, holding regular tests and lessons learned reviews to check that things are working, and acting to correct elements that

need to be fixed or improved. Regular tests of resilience can be quick to undertake, and they can be stitched into regular meetings and project reviews – there's no need to create separate meetings for them.

At all times, you should keep your resilience measures in line with the objectives, context and status of your project, and maintain a state of resilience that is in-built into how the project proceeds. If the project objectives change, some of your activities towards resilience may need to change as well.

### **Demonstrating purposeful resilience demonstrates a good team culture**

Having a good state of purposeful resilience in place on your project, and across your value chain, helps to reinforce a strong and positive culture.

When you have thought through the resilience measures that need to be in place, and planned and practised how to respond to change and events (including but not only crisis events) that can cause disruption or worse, you can be ready to implement measures that are purposeful towards people, society and the environment if a major event or disruption occurs. When this *modus operandi* is stitched into your project culture, your values will shine through.

Examples of demonstrating purposeful resilience as an integral part of your project culture when problems occur could be:

- when a major and/or sudden disruption occurs, quickly (and with the involvement of many parties) adapting your schedule, rostering, scope and commercial approach early, in agreement with stakeholders whilst maintaining the best health and safety;
- adapting a schedule to turn a potential problem of delays into an opportunity to “get ahead” of some activities that would otherwise be performed later;
- being ready, and capable, of shifting some project activities from the usual on-site project location to places off site, if feasible and appropriate (which depends on the context of the project);
- quickly implementing back-up options to maintain continuity of supply of project resources, if the usual resources become vulnerable or are disrupted;
- working purposefully and quickly with project parties in the value chain (e.g. small suppliers) that find themselves in a difficult financial situation due to a sudden external event beyond their control (as an example, COVID-19 has impacted the cash flow for many businesses – payment terms and bank loan guarantees for them can be critical);
- assisting your local community with specific resources in times of need (for example, providing resources and expertise if there is an external event such as a health crisis, extreme weather or a severe geological event in the vicinity of the project);

Demonstrating purposeful resilience works best when your project structure has the right balance of flexibility and control – to allow parties on the project to quickly link together and work in concert to implement purposeful actions.

## Conclusion

Purposeful resilience that puts people first is part of a good project culture. Demonstrating a good state of purposeful resilience can help you anticipate and prepare for change, and deal with unexpected and/or sudden situations and events (including crisis events) that put stress on your project. It can also help you to see opportunities to achieve sustainable outcomes.

Purposeful resilience helps everyone in the project value chain and the community, society and the environment that your project is designed to serve. It pays to think through what might happen and how resilient you are to change and disruption, and to “have a radar” continually scanning the horizon for things that could be coming your way. Looking ahead, planning, anticipating, adapting, and responding effectively to events and change is good resilience, and good project management.

## About the author

[Gareth Byatt](#) is an Independent Risk Consultant and owner of [Risk Insight Consulting](#). He has 20 years experience in international risk and project management, and resilience. Contact him for more information about purposeful resilience, including an example Resilience Assessment review.

