The Cadel Group
Maximising Ecosystem Performance

Developing a Viable Disability Care Ecosystem

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Developing a Viable Disability Care Ecosystem

Introduction and summary

This paper has been written for OST / STS practitioners to help them plan and undertake workshops designed to create viable business ecosystems. It's also part of an ecosystem whitepaper, which is the basis of a new training program to give people the skills to successfully design and build their own business ecosystems.

The paper draws on previous ecosystem development projects and centres on a current venture that aims to develop a viable disability care ecosystem. The paper covers the following:

- Conceptualising disability care ecosystem
- Human systems, ecosystems, econiches, task environments and the extended social field
- Workshop planning, design and implementing a disability care ecosystem
- Technical systems analysis
- Integrating IT platform and advanced wellbeing technology
- Social systems analysis
- Integrating technology via the joint optimisation of socio-technical systems for superior ecosystem performance

With participating players from the healthcare, IT platform and digital technology sectors, The Cadel Group conducted two half-day workshops to develop a disability care ecosystem that would act as a model for disability care providers to operate cost-effectively while at the same time, delivering high levels of customer service within the context of the new customer-centric Federal Government funding policy.

To assist with learning, the paper includes detailed definitions of ecosystems and their environments, and how a community of human systems that constitutes an ecosystem is selected. It also provides the steps and tasks involved with each workshop and the resulting data from completed tasks.

Another important fact highlighted in this paper is that complex business ecosystems are unmanageable without a state-of-the-art IT platform. In today's connected World an IT platform must be able to deal with the changing nature of a business ecosystem, large levels of partner communication and cooperative efforts, and an ecosystem's unpredictable environments.

Finally, there's one other significant learning from this paper. It involves the use of advanced digital technology; viz., when the social system of a business ecosystem is jointly optimised with its IT platform and relevant advanced digital technology it can:

1. Create an opportunity to deliver a new or existing product / service in a fundamentally different way, and thus become a disruptor, or it can;
2. React to the threat of a disruptor by strengthening customer relationships and supporting innovation

Workshop overview

On July 1 2016 the Australian Federal Government introduced a market-style, customer-centric disability funding policy known as the the National Disability Insurance Scheme (NDIS). This new funding arrangement has made it very challenging for disability care providers to continue a business-as-usual operation. It requires a restructure of their business model if they are to remain viable.

A few weeks after the NDIS commenced The Cadel Group conducted two-half day workshops to design a disability care ecosystem that would act as a model for disability care providers to operate cost-effectively while at the same time, delivering high levels of customer service.

After considerable preparation and planning the following participants were invited and agreed to take part in both workshops.

- A general manager from a health and disability care provider business
- Two executives from WaiveNet, developers a SaaS cloud-based IT platform for managing complex ecosystems
- The CIO of a smart home business and director of a consultancy that advisors on intelligent sensor devices including advanced wellbeing technology

There were two key people invited to workshop 1 as well. The first shared her in-depth knowledge of the workings of the NDIS and her comprehensive understanding of the health and disability care sector.

The second participant, who is a world renowned specialist in advanced bio-medical devices, provided the workshop with examples of amazing technology that can help people with a disability live independently. The information provided by these participants was very insightful and helped set the scene for workshop 2.

Although a workforce solutions partner was unable to attend, before the workshop I interviewed the owner of one of the largest recruitment businesses in Australia. This enabled me to act as a proxy for a workforce partner able to provide a pool of workforce ready support workers, experienced care workers and care specialists.

Workshop objective

Under the Federal Government's new user-centric funding policy develop a viable disability care ecosystem model that will:

- Improve disability care provider performance, and
- Meet the needs of NDIS users / consumer directed care

Workshop 1 and 2 steps / group tasks

Workshop 1: Disability care provider external environments and present analysis

1. Conceptualizing a disability care ecosystem and workshop design. This step was briefly explained to participants at the commencement of Workshop 1.
2. Explore recent changes in the World Around Us affecting the health and disability care sector
3. Brainstorm a probable future of the Australian health and disability care sector (2020)
4. Conduct a present analysis of an archetypal disability care provider

Workshop 2: Disability care provider performance issues and solutions

5. Map the workflow and processes of an archetypal disability care provider and identify errors / issues inhibiting performance
6. Design a social system supported by an IT platform and advanced wellbeing technology to produce a disability care ecosystem model to meet the workshop purpose
7. Explore opportunities to deploy and demonstrate the disability care ecosystem model in a variety of health and disability settings, particularly where significant improvements in customer service levels and productivity are an imperative.
8. Next steps

Conceptualizing a Disability Care Ecosystem

An often cited definition of a business ecosystem is by James F Moore who wrote about them in a 1993 Harvard Business Review article. In it he stated:

"An economic community supported by a foundation of interacting organizations and individuals – the organisms of the business world. The economic community produces goods and services of value to customers. Each supplier is a member of the ecosystem. The member organisms also include lead producers, specialists, and other stakeholders, capabilities and roles, and align themselves with the directions set by the ecosystem organization. The function of the ecosystem leader is valued by the community because it enables members to move toward shared visions to align their investments, and to find mutually supportive roles."

Moore is now being cited in more recent articles including Vatier C (2013) and Kelly E et al (2015)

Open human systems

Current discussions and analysis of business ecosystems centres on their growing attraction as the new drivers of customer value in today's connected World. However, to maximise their performance requires revisiting the ground-breaking work of Tavistock social scientists who in the 1950s studied and conducted research into human systems and ecosystems to help European countries transform their industries after the devastating consequences of WWII. (The Tavistock Anthology papers are available here: www.moderntimesworkplace.com)

During this period a new theory about human systems being actively adapted to their environments was conceptualized. This theory is now known as Open Systems Theory or OST and was developed into a reliable social science theory by Professors Fred Emery and Merrelyn Emery from which practical strategic planning and organisational design constructs and methodologies were translated.

Today the most widely used OST methodologies are the Search Conference for large group participative strategic planning and the Participative Design Workshop for changing organisational structures from Design Principle 1 (bureaucracy) to Design Principle 2 (a team-based based structure). Appendices 2 and 3 have further information about these OST methodologies and design principles.

All human systems are open to their environments and they come in many different shapes and sizes. A human open system can be an individual, an organisation, a business unit within an organisation, a community, an industry sector and so on.

Each open system has a common environment, which is an outer layer known as the 'Extended Social Field' or the 'World Around Us'. It is important that workshop participants are familiar with the 'Extended Social Field' because it is where there are currently dramatic and discontinuous shifts in social values and community expectations. As a result, people constantly change their minds about the decisions they will make, including decisions about products and services they'll buy and use!

Some systems have an inner Task environmental layer that also needs to be considered by participants. For business systems the Task Environment is often an Industry Environment. For example, the task environment for an employee may be their organisation. For a care provider it would be the health and disability industry.

Diagram 1 depicts a 'Human System' and its 'Environments'. As an 'Open System', a human system will through its actions over time change its external environments, which simultaneously will change it.

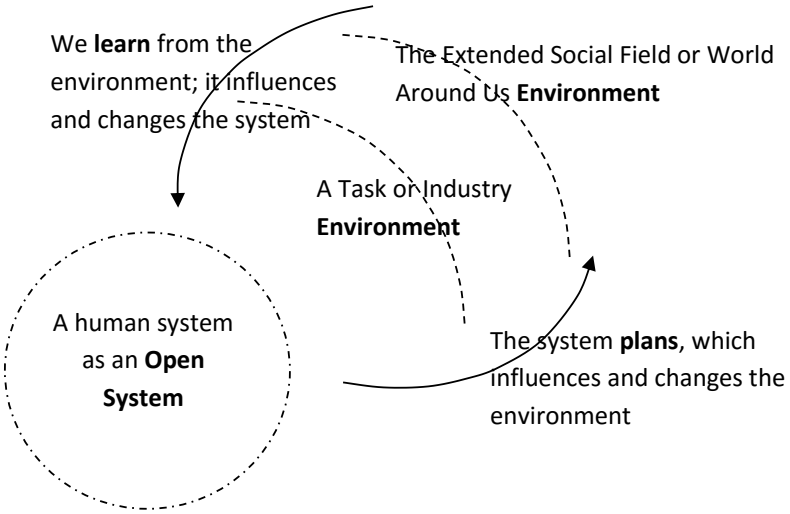


Diagram 1
A human open system in context with its environments

Human systems, ecosystems and econiches

As the OST concepts of human systems, ecosystems and econiches are essential for designing a viable disability care ecosystem, a 'Definition section' has been included in the Appendices to enhance their conceptualisation. Refer Appendix 1 for these definitions. A follow up business ecosystem whitepaper will build on this interim paper to provide more in-depth information about OST and ecosystems, including examples.

From an OST perspective, a definition of a human or social ecosystem is provided by Professor Merrelyn Emery as follows:

An ecosystem in social science is a community of systems, usually organizations and individuals, who occupy a particular section of the extended social environment, a task environment. In human affairs, the first task of the community of human systems that constitutes the ecosystem is to work towards adaptation to their particular econiche so that it and they can function productively within it. That means that the relationship between the community of systems and its task environment, and the relationships between the members of the community itself must be adaptive. When and only when all these relationships become adaptive, can the human ecosystem said to be in an adaptive, evolving relationship with its social environmental econiche.

Applying this definition to design a 'disability care ecosystem' we must first research the Health and Disability care industry, and consider the most likely interdependent human systems that would inhabit a 'disability care econiche' to meet the workshop objective.

This information was gleaned from pre-workshop interviews with key personnel from the Health and Disability sectors and from relevant articles. The gathered information also better informed the workshop objective.

The research identified profound changes taking place in the overall healthcare industry. Pivotal to these changes is a complete rethink of the Federal Government's disability funding policy. Known as the the National Disability Insurance Scheme (NDIS), it was launched in July 1 2016.

According to an article in The Conversation by David Gilchrist (July 11 2016), "The NDIS is a market-style system where government funding will no longer go directly to disability service providers, but instead to the client, who can choose the providers they want.

The scheme is predicated on the idea that users gain control by having the funding effectively follow the person rather than the service provider. They are able to move from provider to provider, receiving the services they want, and how they want them – as long as these are 'reasonable and necessary'.

The new funding scheme necessitates organisations reshape their business models. It means disability service providers have to spend more money on marketing and administration in order to meet the challenge.

There are currently more than 2,300 service providers registered in the scheme. This number will need to grow considerably to meet demand from the projected 460,000 people who will be using the scheme when it's fully operational in three years.

Service providers are mainly not-for-profit organisations but more for-profit organisations are likely to enter the fray. As such there will likely be competition for staff and efficiency in services.

Further, not-for-profit agencies will have to spend money on IT and other systems to provide services under the new arrangements. It also means staff need to be trained to conduct their businesses effectively in the new environment.

Most disability services providers (like many human services providers) simply do not have the capital to meet these challenges. Less efficient (perhaps predominantly smaller) operations will likely struggle to survive."

Already this scenario is playing out. In July 2016, mental health provider Pathways called in the Administrators. CEO Alyson Miller said the service, which was an NDIS pilot site, was losing $1M every six months trying to make the scheme work for people with mental illness.

In light of the Federal Government's new user-centric funding policy, it has become a strategic imperative for service / care providers to not only reduce costs, but also improve customer service.

The next design aspect to weigh up when designing a disability care ecosystem is to decide whether it's sub-component of a larger system, and if so, what is the overarching Task Environment and the related econiche. From discussions with key players in the Health and Disability care industry the following open system components were identified.

- An overarching 'Health and disability care system or ecosystem' that influences and is influenced by the 'Health and disability care task environment' that sits within the 'extended social field'
- An inner 'disability care ecosystem' that influences and is influenced by the 'disability care econiche', the 'health and disability care task environment' and the 'extended social field'

These open system components are illustrated in diagram 2a. Please note that all the environments exist as parts of the 'extended social field'.

Diagram 2a is further explained in Appendix 1: Business Ecosystem Definitions along with diagrams 2b, 2c, 2d and 2e, that highlight the two different ecosystem types and what structure is required to have an effective and productive 'disability care ecosystem'.

It's worth noting that from an OST point of view a disability care ecosystem that has formed and is functioning, may well be called a system if all parts within it are being governed by one system principle. That is, it's functioning as an organisation with a common purpose / mission and an agreed set of strategic goals.

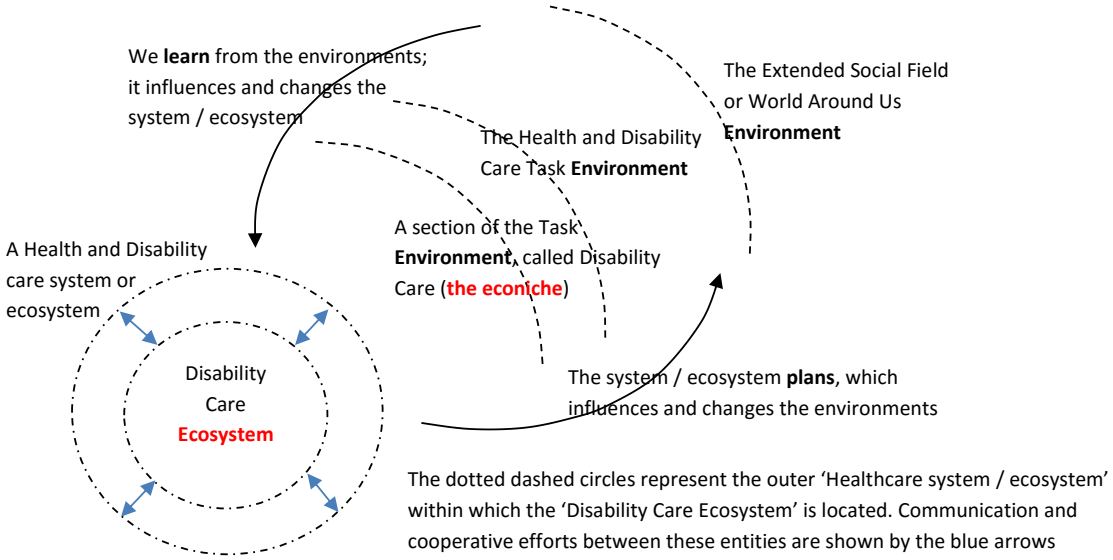


Diagram 2a
A disability care ecosystem in context with its environments

Workshop planning and preparation

The first preparation step for an ecosystem development workshop is planning phase. It must be comprehensive and for this workshop, as mentioned above, it initially involved consulting with experienced industry personnel to identify the many important systems that could occupy the 'disability care econiche' and the role they play in delivering and receiving disability care.

There were many systems considered including the NDIS itself, people with disability / family members / guardians, disability care providers, service providers, disability support workers, specialist support professionals such as nurses, GPs, OTs etc., disability equipment suppliers, wellbeing technology suppliers, government regulators, and so on.

Applying the definition highlighted in Appendix 1: – *the systems that form part of the disability care econiche are more closely related than any other to the NDIS and its purposes* – a small group was earmarked as workshop participants and potential 'disability care ecosystem' partners.

The people and organisation (the systems) identified as being the closest to the NDIS were people with disability / family members, disability care and support workers who are employed or contracted by a disability care provider, and the disability care providers themselves.

Of this group, it is clear from the above 'The Conversation' article and feedback from industry leaders that disability care providers are pivotal to the NDIS success; however, many are in dire straits trying to adapt and remain viable under the new NDIS funding policy. From discussions with care provider senior management, many of these organisations will close their doors or be acquired by large players entering or are already active in this $22 Billion per annum industry.

Those that do survive and prosper will be the care providers that partner with support businesses (other systems) to enable them to reduce costs and improve customer service levels. That is, they'll need to become part of a business 'disability care ecosystem' ecosystem.

Designing a disability care ecosystem workshop

To design a disability care ecosystem workshop firstly requires a business ecosystem consultant to determine the type of ecosystem to be developed. Currently Cadel is designing two disability care ecosystems: -

1. One involves several complementary disability care / service providers collaborating to share back of house services such as HR / recruitment to improve efficiencies.
2. The other is a standalone disability care provider joining forces with strategically targeted support businesses to improve the efficiency of delivering a high level of disability care.

The first is a 'network partner ecosystem' while the second is a 'central partner ecosystem'. These ecosystem categories are explained in Appendix 1: Business Ecosystem Definitions.

This workshop has been designed for a 'central partner ecosystem'. It centres on a standalone disability care provider being supported by key partners. The ecosystem support partners invited to the workshop were:

- An IT end-to-end platform specialist to manage the cooperative efforts and work flows of ecosystem partners and important external players to significantly improve efficiencies and customer service levels
- An advisor of advanced assisted living technology to provide guidance on ways to improve efficiencies and customer service levels
- A provider of a pool of experienced care support workers and specialists to help meet unexpected care demands and maintain a high level disability care

A crucial partner for the design and development of a viable disability care ecosystem, or any business ecosystem for that matter, is the IT platform specialist. Business ecosystems are many and varied with multiple partners and suppliers ranging from individuals to large organisations resulting in vastly different communication and coordination efforts and performance improvement issues.

To come to grips with this management complexity one only needs to review diagrams 2a and 2b. Not only do the relationships between the disability care ecosystem and the NDIS econiche and the Health and Disability care system have to be managed, but so too do the cooperative efforts of the partners. In addition, the internal workflows of the central partner need to be managed efficiently and effectively.

And ecosystems are not static. They will change over time as improvements are made, opportunities and threats emerge, the external environment changes and so on; therefore, an IT platform must be able adapt and respond to these changing conditions to help the ecosystem continually improve performance.

To appreciate disability care ecosystem complexity and identify where improvements can be made requires having the main ecosystem partners 'in the room' to undertake intra- and inter-system workflow mapping, sometimes referred to as a high level technical systems analysis. During the analysis, workshop participants identify process / workflow errors that impede performance and the discuss solutions to improve the quality of care and productivity.

As mentioned in the Workshop overview and above, the disability care ecosystem partners that participated in the workshops were: -

- A general manager from a health and disability care provider business
- Two executives from WaiveNet, developers of a SaaS cloud-based IT platform for managing complex ecosystems
- The CIO of a smart home business and director of a consultancy that advisors on intelligent sensor devices including advanced wellbeing technology
- A consultant to the NDIS who shared her insights about the workings of the NDIS and her knowledge of the health and disability care sector
- A professor of intelligent bio-medical devices who provided examples of advanced wellbeing technology that can help people with a disability live independently.
- Although a workforce solutions business representative was unable to attend, from previous HR roles and several pre-workshop interviews I was able to act as a proxy for a workforce partner.

All these ecosystem partners are open systems trying to adapt to the Disability Care Econiche and beyond that, the Health and Disability Care Task Environment and Extended Social Field.

Coincidently, workshop participant expertise aligned with a recent Accenture report titled 'Technology Vision 2016'. For a report summary go to link: https://www.accenture.com/t20160314T114936__w__/us-en/_acnmedia/Accenture/Omobono/TechnologyVision/pdf/IT-Tech-Trends-Technology-Vision-Exec-Summary-2016.pdf

A final and probably the most important aspect to bear in mind when designing a business ecosystem workshop is to realise that no two ecosystems are the same. To some degree these workshops are action research in nature, and therefore a business ecosystem consultant requires a working knowledge of OST methodologies and concepts in order to design a workshop that will produce a viable disability care ecosystem; in reality, these skills are essential for developing any viable business ecosystem.

The prerequisite skills to design a 'disability care ecosystem' workshop come equally from a working knowledge of the Search Conference (SC) and the Participative Design Workshop (PDW). Both methodologies, which have translated from OST, are summarised in Appendices 2 and 3.

For example, a business ecosystem consultant needs to recognise that organisations and people (open systems) join an ecosystem as *volunteers* and therefore, from the outset there needs to be a high level of trust to sustain an ecosystem. Establishing the conditions for trust early in the workshop is especially important because in most cases people will be working together for the first time.

To generate trust between partners the workshop had two important design features, specifically:

1. The workshop functioned as a Design Principle 2 (DP2) entity, and this learning comes from both the SC and PDW.
2. The 'conditions for effective communication' were generated, which is an essential element for managing a successful SC. See Appendix 4 for details.

Diagram 2e is a clear example where these two design features were not factored into the workshop design and as a consequence this business ecosystem failed to take shape and grow.

Implementing a disability care ecosystem

Although they are very diverse, most business ecosystems have one distinctive feature: they consist of a separate social system and technical system, which have to be jointly optimised while functioning in fast changing unpredictable environments to maximise performance.

In other words, business ecosystems are Socio-Technical Systems that are open to their external environments and require the best fit between their social system and technical systems to be able to rapidly adapt and respond to changing circumstances to continually deliver high performance outcomes.

Technical system analysis and solution implementation

As described earlier, a business ecosystem consultant works with ecosystem partners to conduct a technical systems analysis of an ecosystem; that is, a work / communication / relationship flow is carried out and solutions are identified for the errors / issues impeding performance.

More often than not, these solutions cannot be implemented without an advanced IT platform, which is the vital link that connects and helps coordinate all the critical ecosystem components. Without a robust state-of-the-art platform an ecosystem becomes unmanageable.

The key features of a world class ecosystem platform are:

- It can integrate the critical components of an ecosystem
- It familiarizes users with different interfaces and ecosystem partners and external players
- It helps identify potential roadblocks and errors that could impact performance
- It is cloud-based
- It must be a bespoke service so ecosystem users can access relevant information when required without having to build their own platform

Cadel's IT platform partner, WaiveNet provides this platform functionality and more. It is a technology platform that delivers powerful end-to-end solutions for ecosystem users and customers.

WaiveNet puts ecosystem users directly in touch with their customers and empowers them to choose relevant ecosystem products and services to meet their particular needs. If required, its

sister company, WaiveStar combines on-line technology, marketing, sourcing, warehousing, fulfilment and distribution services for applicable ecosystems.

In today's digital multi-channel customer engagement environment, business ecosystems need to invest in technology to redefine and simplify their operating model to improve performance. For further information about WaiveNet's IT platform, visit: www.waivenet.com.au

Social system analysis and implementation

Although accessing the WaiveNet platform to implement solutions that are technical / work flow based, on its own it's not enough to maximise performance. To do so an ecosystem requires a superior social system that is jointly optimised with its technical system.

In fact, if either system is ignored at the expense of the other the business ecosystem will become sub-optimal. This is a common mistake made by the TQM / JIT, business process engineering and lean manufacturing communities.

Also mentioned earlier and in Appendix 1, ecosystem partners more often than not join voluntarily. Therefore, the conditions need to be in place that foster mutual support and respect and motivate partners and disability care provider staff to work cooperatively to meet shared goals.

Ecosystems and care providers that are structured as dominant hierarchies of authority (i.e. DP1 bureaucracies) are dysfunctional and have low service quality and productivity. As described in Diagram 2e, DP1 ecosystems can self-destruct because few people will work voluntarily in a command and control environment. DP1 systems destroy motivation; they turn people off. (De Guerre, D 2008)

To create a high performing ecosystem and disability care provider, it is imperative that social systems have the following characteristics.

- There is widespread commitment to an ecosystem and a disability care provider's strategic goals. (Partners and disability care provider teams need to each have the opportunity to develop a set of coordinating goals that they own and share)
- There is a DP2 structure in place that motivates ecosystem partners and disability care provider employees to work cooperatively to meet their shared goals
- There are clear policies and guiding principles to help with decision making

Business ecosystem consultants that possess the knowledge and skill to apply proven OST methodologies and concepts can implement highly effective social systems that incorporate these characteristics. And when workshop participants get the opportunity to develop their social system in a DP2 environment they often generate new ideas and revenue streams that weren't identified when their ecosystem was being considered.

The Cadel Group ecosystem training course mentioned in the 'Introduction and summary' section will provide people with the skill and knowledge to sustain their own social systems. A key training outcome is the knowledge of socio-ecological learning. Having this knowledge enables ecosystem

workshop participants to thoroughly scan environments, identify new opportunities and threats and create a culture of innovation and ongoing learning.

With WaiveNet's advanced end-to-end technical platform and The Cadel Group's highly effective business ecosystem and social system training, a business ecosystem consultant will have the necessary tools to establish the best fit between the social and technical systems to maximise an ecosystem's performance.

If the conditions are not created to maximise performance an ecosystem becomes vulnerable. Partners may lose interest and leave or worst still someone takes advantage of a floundering ecosystem and replicates it, but this time creates an environment where people want to work together to meet their shared goals.

Workshop 1 outputs

Applying the above workshop design conceptual framework and elements of translated OST methodologies produced a workshop to design a disability care ecosystem.

Steps 1 to 3 of the workshop focused on getting a general understanding of external environment trends and the potential opportunities and threats that could affect a disability care ecosystem. Therefore, it was important to have 'people in the room' who had a practical understanding of the external environments, particularly the health and disability care industry.

The present analysis of the disability care ecosystem, i.e. Step 4, is an important initial step for understanding an open system or ecosystem and it was completed in Workshop 1.

Workshop 2 revolved around steps 5 and 6 and continued the analysis of a disability care ecosystem. These steps are the two key components of a the PDW, and involves the joint optimisation the social and technical systems of a system or ecosystem. It's often described to as socio-technical (STS) systems analysis.

The analysis was completed in Workshop 2 by those who have a hands-on knowledge of a typical disability care provider. The outcomes completed for both workshops are summarised below.

Changes in the World around us affecting the health and disability care sector and the disability care ecosystem

In a plenary session participants brainstormed answers to the question: What has happened in the last 5-7 years that you have seen as being novel or significant – particularly trends that could affect the health and disability care sector and the disability care ecosystem?

Responses included: -

- Increased awareness of sexual abuse / abuse of people in care
- Increased bullying
- Increase use of smart assisted living technology
- Increase in breaches of personal privacy / hacking / money scams
- Increased financial abuse of the elderly (by family members)
- Old 'industrial' jobs disappearing; new digital jobs emerging / AirTasker

- Increased use of IoT devices, AI, AR, robotics, algorithms – loss of jobs to this technology, and new ones created
- Increase in social media communication / abuse / bullying
- Increase in social media rating apps – Uber, TripAdvisor
- War for talent
- Emergence of shared economy – Airbnb, Uber
- Increase in disruptive technology – Uber taking market share from Taxi industry
- Increase use of platform-based ecosystems – online shopping
- People have more choice and control
- Increase in compliance
- Social expectations
- Ageing population
- Increase in bi-lateral arrangements
- Increase in use of ecosystem platforms
- Increase use of big data analysis
- Large government debt / insufficient resources
- Change in Government funding policy from provider to user expected more generally

Brainstorm a probable future of the Australian health and disability care sector (2020)

In a plenary session participants brainstormed answers to the question: what is the Probable Future of the Health and Disability care industry in which a disability care ecosystem operates out to the year 2020?

Responses included:

- Government funding for healthcare sector is a user-centric, market-based model
- NDIS – 450,000 recipients (approx.) of Govt. Funding.
- The funding model has changed from funding Service Providers to distribute service to disabled clients to funding the client.
- Currently services are delivered by paid carers and/or volunteers (often family). The ratio of time spent performing such services to a disabled person is 1 to 4 with 1 indicating the time spent by a paid carer and 4 the time spent by volunteers.
- Under the new NDIS funding model the client / recipient and their advocates (either family or professionals) will determine services and pay the service / care provider.
- Paid carer profile – 80% are women over 50 years old working on average 20 hours per week. There are no formal qualifications required to carry out such services currently, but focus on reducing costs / providing increased customer service will require staff with higher skill levels
- Elderly will live independently for longer
- There will be greater care provided in the home / have medication to die in their homes
- More people will have access to technology
- Health and disability care providers are much more customer focused. Those that refused to change closed their doors
- Health and disability care providers spend more on IT, marketing and admin
- Increasing competition for skilled staff
- Smart assisted living technology enables disabled / elderly more independence
- Smart / safe homes are common
- Health and disability care providers have restructured – part of ecosystems to survive
- Integrated care teams / self-managing teams

- Government will not provide funds to help health and disability care orgs to restructure
- Individualized funding more expensive to administer
- Increased competition for skilled staff
- Many casuals used in health and disability care sector
- Health and disability care providers attempt to use Buurtzorg model (self-managing teams) to improve performance
- Responsive adaptive workforce / committed workforce
- Increase service efficiency required to survive
- Increasing use of service level agreements / SLAs
- Not-for-profits required to spend more on IT
- SLAs in place between ecosystem partners / in place along the supply chain / Uber-style ranking systems in place
- User-centric funding model requires more care providers, more carers providing 24/7 care
- Increased costs of care
- Industry dynamics – some survive, others won't
- Increased reliance on companion support
- Customer friendly IT platforms in use
- Secure IT platforms in use so a user funds aren't misappropriated
- Most care providers don't have capital to meet new funding model – More M&A, closures
- A universal service and support system in place for high quality care, surety of delivery and flexibility
- Workforce responsive and adaptive to client needs
- Work in self-managing teams
- Greater complexity for consumer
- Stakeholders / care providers will talk more to each other

Present analysis

This task was included to enable participants to brainstorm what should be kept, discarded and created for a typical disability care ecosystem to remain viable in the context of the above external environments.

However, because the group was in a highly creative working mode and was already discussing a 'present analysis' of a disability care ecosystem, it was decided to record what was being discussed rather than interrupt a productive discussion, which could have reduced participant energy levels.

Keep	Chuck	Create
Committed staff	Casualization of the workforce	Customer / client focused organisation
Staff training		Low operating costs
		Share back of house costs with complementary care providers
		An employer of choice to attract talent
		Workforce organized in self-managing work teams (e.g. Buurtzorg)
		Strong relationships between client and workforce
		Smart technology that provides real-time information about client wellbeing

		Highly responsive / adaptable workforce to meet client expectations
		Clients have portable technology
		High levels of trust between ecosystem partners
		Trust with use of personal data
		Range of wellbeing support technology for clients – from low to highly advanced / low cost to more expensive
		A care provider able to deal with low and high care clients
		A platform that manages partner coordination efforts
		A platform that can manage complex case management situations
		Motivated teams

Workshop 2 outputs

Technical systems / workflow analysis

Workshop 2 primarily centred on a workflow / technical systems analysis of an archetypal disability care provider. It was led by those ecosystem partners who had in-depth care provider operational knowledge and involved mapping the workflow and processes and identifying the errors / issues inhibiting performance.

In addition to improvement ideas from the care provider partner, this technical systems analysis also produced solutions from ecosystem partners WaiveNet and the advisors on advanced wellbeing technology. Workforce solutions, especially for the efficient recruitment of workforce ready care and support workers, were also identified that could be provided by a potential workforce partner.

The main output of Workshop 2 was a detailed technical systems analysis of the care provision services for people living with a disability who are NDIS recipients – NDIS users. As part of this analysis we also took into account the Federal Government's Consumer Directed Care funding model that has been established to help people live at home for as long as possible. The CDC model will directly fund consumers via Home Care Packages, giving them more choice and control in the type of care they receive and which provider delivers the care. CDC funding will commence in early 2017.

During initial discussions workshop participants identified three different consumer categories that purchase services from care providers. They are those that rely solely on NDIS funding, those that are 'nest eggs' – part government funded, part privately funded, and those that are wholly privately funded.

Participants then decided to map the workflow of those that only receive NDIS funding, not only because this workflow map can be used as a template for the other two funding categories, but also because the NDIS program is receiving a lot of attention lately about what's working well and what isn't as it is rolled out.

The workshop discussion then turned to how a typical disability care provider generates NDIS business. It was explained that there are basically two options and they are:

1. A person who is a recipient of the NDIS Individual Support Package – an NDIS user – independently contacts a care provider via a cold call
2. A care provider is contacted by a large care organisation, usually faith-based, which receives corporate funding from various levels of government to provide a range of community care services to many 1,000s of people across Australia. These large organisations play a brokerage role in generating business for the archetypal disability care provider.

During the above discussions participants identified a number issues for care providers concerning the NDIS and CDC funding models. They included:

- A lot about the NDIS is unknown
- NDIS pilots are not making money – need to get scale
- The average aged-care package last about 8 years, which impacts on marketing budgets
- NDIS packages will generally last a lot longer
- Care providers are under a lot of pressure dealing with the new NDIS program. Many managers are 'working in the business, rather than on it'!
- Disruptors are entering the care provider business market, e.g. hireup.com.au uses a platform to match people with disability and support workers. Bettercaring.com.au enables people who are ageing, or those with a disability, to connect with skilled support workers in their area.

Once there was clarification of care funding categories and the two options for care providers to generate business, participants started to collectively draw a detailed workflow map from an NDIS user's perspective of making a cold call to receive the care they require from their chosen care provider. This workflow was mapped and the errors identified. This workflow represents the current way a typical disability care provider is connected to an NDIS user.

Applying the Pareto rule, only a high level diagram outlining the major workflow steps was drawn. That is, a 20% picture of the workflow will provide an 80% understanding of how work flows for a typical disability care provider. It is shown below in Diagram 3.

While drawing the workflow map, errors / issues were identified that are presently impeding the performance of a disability care provider while attempting to remain viable in the new NDIS funding environment. Also discussed were practical solutions to meet the workshop objective, that is:

Under the Federal Government's new user-centric funding policy develop a viable disability care ecosystem model that will:

- Improve disability care provider performance, and
- Meet the needs of NDIS users / consumer directed care

Table 1 lists the performance errors / issues identified for each of the workflow steps as well as the corresponding practical IT platform, technical wellbeing and workforce solutions that will eliminate or reduce poor performance and improve NDIS user care levels.

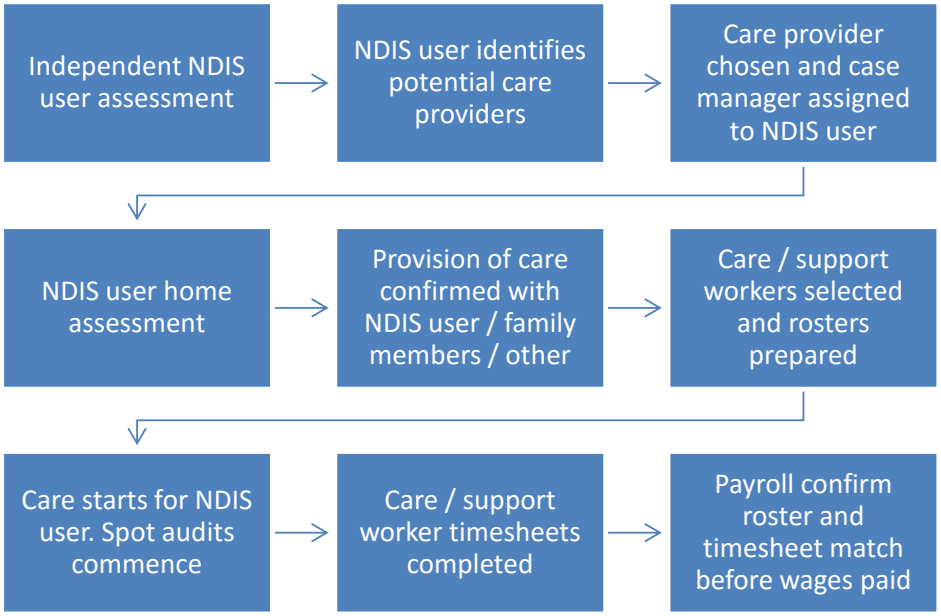


Diagram 3: The workflow of NDIS user with an individual support package

The following table outlines the workflow steps and corresponding errors / issues that a typical care provider currently must deal with on a day to day basis. Also highlighted are a number of participant solutions that will eliminate or mitigate the impact these errors / issues have on performance.

Workflow step	Description	Error / issue	Solution
Independent NDIS user assessment	An independent assessor determines a person's level of disability, which in turn affects funding levels. Level 1 & 2 package is for low care; Level 3 & 4 package for high care	A person's disability level could change over time – some may deteriorate, others could improve. It's important care providers are being appropriately remunerated for the level of care provided.	Requires wellbeing monitoring technology and skilled staff to identify any changes. The WaiveNet platform is designed to track staff skill acquisition and user wellbeing status. These actions will help reduce hours spent in a user's home
NDIS user identifies potential care providers	An inbound cold call from an NDIS user is usually made after the user / family have investigated the NDIS portal, a care provider's website and/or word of mouth recommendations.	An NDIS user's call is taken by the care providers 'call centre'. Initial discussions, which follow a checklist, centre on the user's care needs. Information collected is written in a	The WaiveNet platform's relationship and content management modules can automate this step. It provides one convenient location for user / care needs information that

		notebook. There's no opportunity to record this information directly into an IT system.	meets privacy laws and can only be accessed by authorised personnel
Care provider chosen and case manager assigned to NDIS user	When an NDIS user selects a care provider a case manager is assigned to the user by the disability care provider. Usually a case manager is a level 2 nurse / has clinical skills.	Case managers typically manage 30 users and have to deal with family members, regularly from different ethnic backgrounds who often don't speak English.	In addition to the above relationship and content management modules, WaiveNet's project and document management modules will improve efficiencies by managing the start of a user's care program and enabling collaboration across devices and with other staff members / partners.
NDIS user home assessment	The assigned case manager visits a user's home for a home assessment.	Using a risk management checklist, a case manager undertakes a safety assessment from both a user's and worker's perspective. No technological assessment such as level of home safety or the wellbeing needs of a user is undertaken because case managers don't have these skills	The above WaiveNet platform modules can also be used to make this step much more efficient by reducing the time case managers need to spend in homes. The safety and wellbeing of users can be significantly enhanced through safe home technology. E.g., the use of video content analysis produces alerts such as flame and smoke detection, motion / fall detection, and so on, which can be sent nominated carers. And many other smart devices are available to monitor wellbeing.
Provision of care confirmed with NDIS user / family members / other	The type of care to be delivered by the disability care provider is confirmed with all relevant parties. A care plan is	Once care type is confirmed the NDIS user / family members etc. are notified by a phone call, email or fax. Often a fax is still	Significant efficiencies can be made in this step by using the above WaiveNet platform modules plus the CRM module. It

	entered into one of the care provider's IT legacy systems	the preferred form of correspondence for a disability care provider	enables the disability care provider to manage all aspects of care for a user on the one IT platform and avoid the use of faxes.
Care / support workers selected and rosters prepared	This step involves a case manager (and sometimes family members) interviewing potential care / support workers to care for a particular user. Selected support workers, usually chosen for their experience, are often notified by text. The case manager then manually prepares a two-week roster which is mailed to support workers.	Most of the activities in this step are manual and lead to high levels of inefficiency and unnecessary costs. There is no 'CRM equivalent' for a pool of support workers to select from. And rosters are 'fixed' for two weeks, which produces an inflexible, low response situation for NDIS users.	This entire step can be automated and managed much more efficiently and effectively by the WaiveNet platform and with a workforce solutions partner. The rosters can be developed 'in the cloud' so the case manager and support workers can make changes in real-time to better manage NDIS user expectations.
Care starts for NDIS user. Spot audits commence	Once care starts it's mainly a case of support worker roster filling to ensure each user is receiving appropriate care. NDIS checks the level of care being provided through a 'spot audit' program.	This manual and inflexible roster system creates many inefficiencies for this step. It also has implications for a care provider meeting its service level agreements with users and the NDIS, which will be identified via spot audits.	Having a cloud-based roster and workforce managed by WaiveNet's job / resource module will significantly improve service levels. Also, having staff work in teams provides the opportunity to set up team goals that include a service level agreement goal. For further information, see section below on teams.
Care / support worker timesheets completed	Care / support workers manually complete their timesheets to record the time spent on care work completed. It is signed by the NDIS user and the worker. It should also align with their roster schedule.	This manual operation is often completed and signed on paper. It then has to faxed or scanned and emailed to payroll. Both processes are very inefficient.	The WaiveNet document management module with an electronic signature process would make the collaboration between the NDIS user, support worker and payroll easy.

Payroll confirm roster and timesheet match before wages paid	Completed timesheets that are faxed or emailed to the payroll in the care provider's office must then be matched with a support worker's roster. When the timesheet and roster align payroll has the approval to pay the support worker's wages.	This is a manual step where payroll staff spread out support worker timesheets on the floor and visually check against the relevant rosters. Mistakes are made weekly so Payroll has to do re-runs, which is a very inefficient process.	The WaiveNet relationship management, document management, and job / resource modules can automate this entire step and significantly improve the care provider's key performance indicators.

Table 1: A list of the performance errors / issues identified for each of the workflow steps as well as suggested solutions to improve care provider performance and NDIS user care levels.

Social systems analysis

The above technical systems analysis, involving the collaboration of disability care ecosystem support partners, identified many opportunities to reduce a care provider's operating costs and improve customer service levels for NDIS users. However, because this workshop is designed for a 'Central Partner Ecosystem', in order to maximise performance, not only do ecosystem partners need to operate as a team, but so does the disability care provider. Refer to Appendix 1 for information about 'Central Partner Ecosystems'.

During the workshop there was much discussion about the Buurtzorg business being used as a model for delivering high levels of care to NDIS users. As this recent report shows: - https://www2.rcn.org.uk/__data/assets/pdf_file/0003/618231/02.15-The-Buurtzorg-Nederland-home-care-provider-model.-Observations-for-the-UK.pdf, the Buurtzorg success revolves around its organisational structure based on self-managing teams.

This then poses the question, "what's wrong with existing care provider organisational structures?" Typical care providers have a DP1 bureaucratic structure, which from a case management perspective would look like the following.

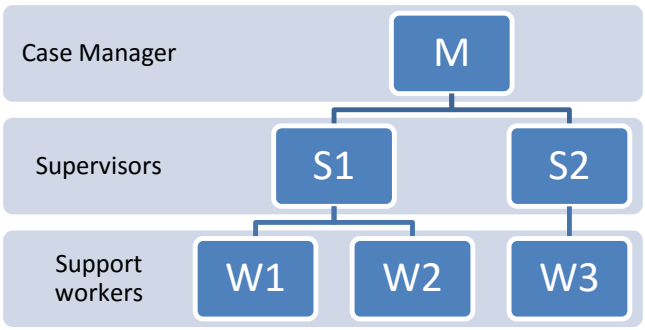


Diagram 4: An example of a care provider's DP1 bureaucratic structure

When senior management levels are added to this structure there would be at least 5 levels of hierarchy. In a bureaucracy these are known as dominant hierarchies.

Unfortunately for care providers that are structured this way, their performance is hindered by the inherent costs of bureaucracies. Some of the major inbuilt costs of the bureaucratic model that care providers have to grapple with on a day-to-day basis include:

- Low levels of intrinsic motivation
- Internal competition severely affecting the quantity and quality of communication
- Errors that enter the system are amplified
- Group dynamics of dependency and fight / flight are prevalent
- Low intellectual satisfaction particularly for those at the bottom of hierarchy

Compared to a DP2 team-based structure, where these inherent costs are not part of the structure, bureaucratic DP1 structures are much less productive than organisations that have the self-managing team as their basic unit of work.

To overcome these inherent costs, most organisations are able to pass them on to their customers. But in the NDIS funding environment this strategy is not an option.

Research by RMIT University academics Fiona Macdonald and Sara Charlesworth found disability organisations believed prices set by the Federal Government for one-to-one assistance under the NDIS are too low. Feedback from CEOs and senior managers in large and small organisations was that they could not afford to provide direct care and support services with the level of funding they received under the NDIS.

This state of affairs creates an opportunity to establish a DP2 disability care ecosystem as an NDIS disruptor. And if a disability care provider startup or greenfields option is chosen it presents several advantages, including:

- It avoids a total redesign of an existing care provider, which can be problematic in the conservative healthcare sector, and
- It can be done quickly to maximise potential benefits.

To support and guide the establishment of a DP2 disability care provider the disability care ecosystem would provide an advisory board role. The MD / owner of a disability care provider, which is the central ecosystem partner, would play an active role in both management and the board. Their role would be similar to CEO and Chairman where much of their work would be external to the day-to-day running of a DP2 disability care provider business.

Managers of the DP2 disability care provider are responsible for the health and direction of the business. Their responsibilities include:

- Developing and successfully executing strategic plans
- Regularly monitoring the performance of self-managing teams against an agreed set of goals that are directly related to the business goals. If teams are not meeting their goals, then put

in place action plans to support team members. This could involve new skill development, better NDIS user wellbeing information and so on.

- Ensuring staff and NDIS user surveys are conducted at least annually to determine wellbeing of both staff and users

Each self-managing team is responsible for setting their goals that are related to the business goals and the care of multiple NDIS users who for instance, live in a particular suburb / region etc. The team as a whole would have skills to carryout case management, use the WaiveNet platform, assess wellbeing technology required, manage support specialists, and so on.

Please note that the role of management and operational teams in a DP2 structure will be made more explicit in the Cadel white paper booklet that's provided to participants of the business ecosystem training program.

In the meantime, a proposed DP2 team-based structure for a disability care provider and the ecosystem advisory board is illustrated in Diagram 5 below.

It is DP2 structures like this that enable the joint optimisation of the social and technical system. When people work in self-managing teams they are motivated to acquire the necessary skills to help their team meet its agreed goals that they've negotiated with management.

They are also empowered to use the technology like the WaiveNet platform and advanced wellbeing devices to improve efficiencies and customer service levels. And they have the skills to manage their workforce requirements.

DP2, not DP1, organisational structures establish the conditions that produces the best fit between the technical and social systems – that is, they're jointly optimised – which leads to high levels of service quality and productivity. It is this way of working and the outstanding performance results that's generating so much interest in the Buurtzorg model.

A proposed Disability care provider DP2 organisational structure

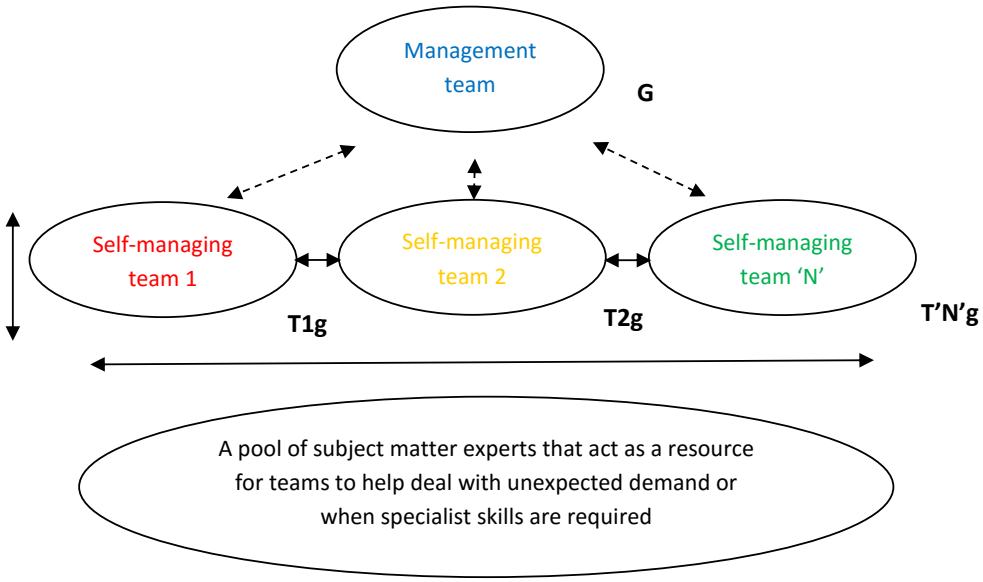


Diagram 5
A proposed disability care provider's team-based structure and the ecosystem advisory board

Appendices

Appendix 1: Business Ecosystem Definitions

Open systems and Environments

It's important to delineate systems and environments because they are entirely different entities. They have different relationships and influencing effects on each other that can be analysed and understood. This type of analysis is critical for maximising the performance of business ecosystems.

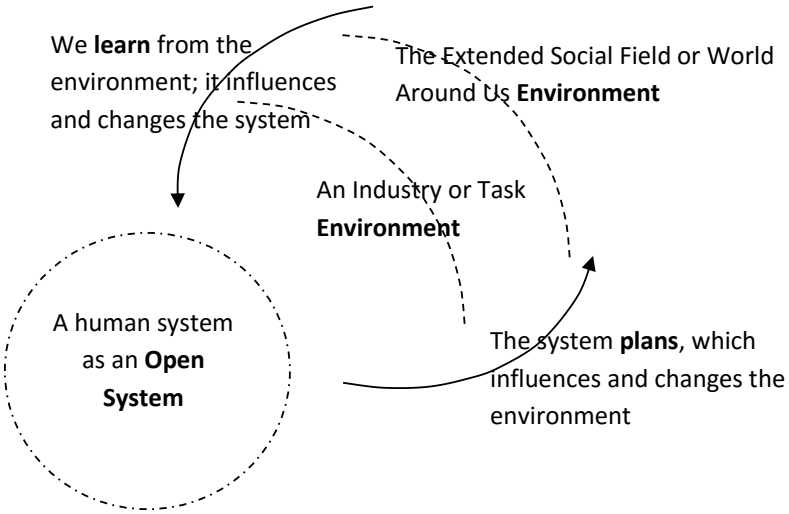


Diagram 1
A human open system in context with its environments

Environments are fields which exert forces or affordances (Johnston and Turvey, 1980: 150) on systems. The systems and ecosystems that inhabit those environments create some of these forces, as in mutual determination. The systems inhabit the environments but the environments do not consist of them.

And systems can function as environments too. "What is a system in one context is an environment in another depending on the focus of enquiry". (Emery, M. 1999, page 18). For example, in Diagram 1 the human system could be an organisation. However, from an employee's point of view the organisation is their task environment.

Ecosystems and Econiches

An **ecosystem** in social science is a community of systems, usually organizations and individuals, which:

- Occupies a particular section of the task environment known as an **econiche**
- Is more closely related to the econiche than other ecosystems, and
- To survive, the ecosystem needs to work toward adaptation with the econiche

In human affairs, the first task of the community of human systems that constitutes the ecosystem is to work towards adaptation to their particular econiche so that it and they can function productively within it. That means that the relationship between the community of systems and its task environment, and the relationships between the members of the community itself must be adaptive.

When and only when all these relationships become adaptive, can the human ecosystem said to be in an adaptive, evolving relationship with its social environmental econiche. Diagram 2a represents a disability care 'Ecosystem' and its 'Econiche Environment'.

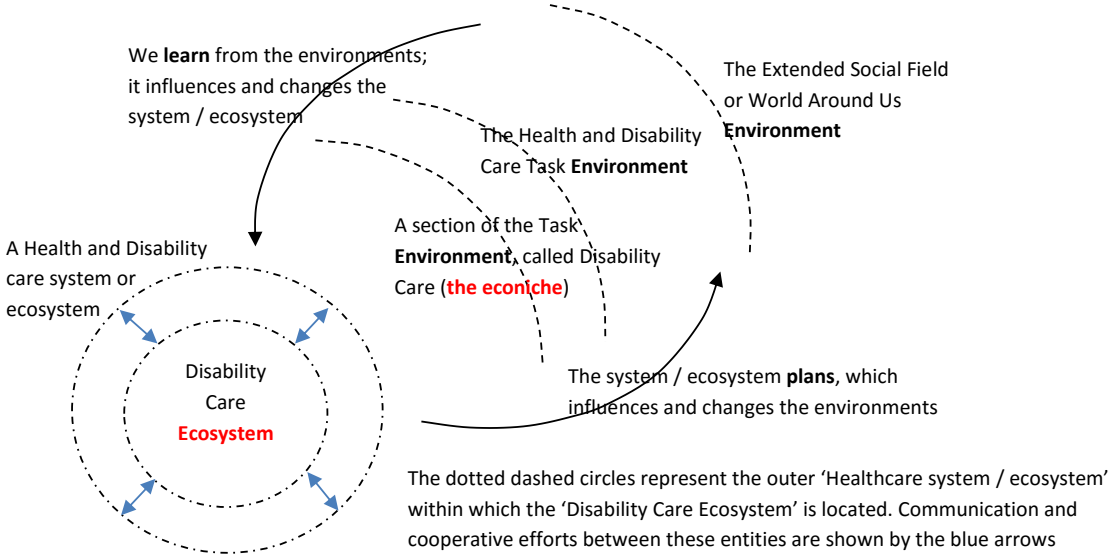


Diagram 2a
A disability care ecosystem in context with its environments

Determining the human systems that constitute a 'disability care ecosystem'

To develop a 'Disability care ecosystem' you first need to consider the human systems that would inhabit the 'disability care econiche'. These systems are those that meet the criterion of being uniquely interdependent with the NDIS and its purposes.

After consulting experienced industry personnel to identify the many systems that could meet this criterion, particularly understanding the role different systems play in delivering and receiving disability care, the following systems were selected as occupying the 'disability care econiche'.

They are the NDIS itself, people with disability / family members / guardians, disability care providers, service providers, disability specialist support professionals such as nurses, GPs, OTs etc., disability equipment suppliers, wellbeing technology suppliers, and some government agencies / regulators.

They are the systems that are more closely related than any other to the NDIS and its purposes that form part of the 'disability care econiche'.

Within this group there is a sub-group of systems that are very close to the NDIS and intimately know (or will have to know) its operation and objectives. They are the people and organisations that communicate and work with the NDIS on a regular (daily, weekly, monthly) basis.

It is this community of systems that make up the central elements of the 'disability care ecosystem'. Feedback from key disability care players identified that those who were the closest to the NDIS were people with disability / family members, disability care and support workers who are employed or contracted by a disability care provider, and the disability care providers themselves.

Of this final group, it is clear from the above 'The Conversation' article and feedback from industry leaders that disability care providers are pivotal to the NDIS success; however, many are in dire straits trying to adapt and remain viable under the new NDIS funding policy.

They are the weak link in terms of ecosystem performance and from analysis of their operations will require support partners such as an IT platform specialist, an advanced assisted living technology company and a health and disability recruitment business to become integral partners of the 'disability care ecosystem'.

Therefore, the community of human systems that constitutes the 'disability care ecosystem' is the NDIS, a disability care provider and its support partners including an IT platform specialist, an assisted living technology supplier and workforce recruitment professional, and its clients – people with disability / family members, and its workforce – the disability care / support workers.

The disability care workshops were designed to create a 'disability care ecosystem' model that established the conditions, so that: -

- Firstly, the community of human systems that constitutes the 'disability care ecosystem' is able to work towards adaptation to the 'disability care econiche', and
- That the 'disability care ecosystem' and the community of human systems can function productively within it.

That means that the relationship between the community of systems and its task environment, i.e. 'the health and disability care' task environment, and the relationships between the members of the community itself must be adaptive.

When and only when all these relationships become adaptive, can the human ecosystem said to be in an adaptive, evolving relationship with its social environmental econiche.

Ecosystems categories and their organisational structures

As mentioned above, an ecosystem is a community of systems, usually organisations and individuals, who occupy a particular section of the task environment, an econiche. This community of systems can join forces and collaborate around a central partner or they can collaborate as a network of partners that's identified an opportunity or threat.

In the later situation, the network cooperates to provide a new product / service to make the most of the opportunity or eliminate / mitigate the threat. In the digital World these opportunities often manifest themselves as being a 'disruptor', and the threats often evolve as protracted 'train wrecks'; viz. Uber disrupting the taxi industry.

Central Partner Ecosystem

The central partner ecosystem would have a network of relationships and cooperative efforts revolving around the central partner with the remaining ecosystem partners providing support expertise to ensure the success of this type of ecosystem. Diagram 2b depicts this ecosystem type.

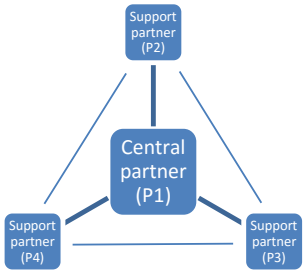


Diagram 2b
A Central Partner Ecosystem

To maximise the performance of this ecosystem not only does the ecosystem itself have to be designed as a Design Principle 2 (DP2) entity, so too does the central partner – the disability care provider. A DP2 disability care provider can be established by two approaches, namely: -

1. Undertaking a PDW (see Appendix 2) for an existing DP1 disability care provider, which may be problematic for the conservative health and disability care sector, or
2. Establish a startup or greenfields DP2 disability care provider via the application of the disability care ecosystem model described in this paper.

Network Partner Ecosystem

To maximise the performance of a network partner ecosystem it must be designed as a DP2 entity.

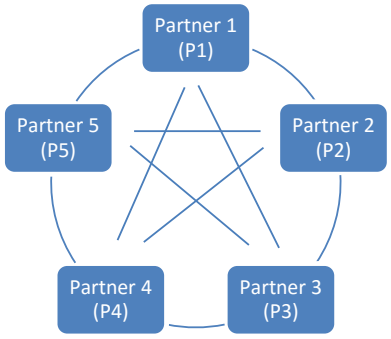


Diagram 2c
A Network Partner Ecosystem

Diagrams 2d and 2e highlight that an ecosystem can be designed as a Design Principle 2 (DP2) or as a bureaucratic structure which is Design Principle 1 (DP1). These design principles are described in Appendix 3.

The Disability Care ecosystem is a 'central partner' ecosystem type. In the development workshops ecosystem partners organised themselves as a DP2 group simply by undertaking the workshop tasks. No instructions were given on how to set up as a team; it was the result of the workshop design.

The blue lines indicate not only communication and cooperative efforts between partners, but also this group is sharing its specialist knowledge and experience to meet the workshop objective. It's functioning as a one level hierarch of function. Only DP2 structures are adaptive with their environments.

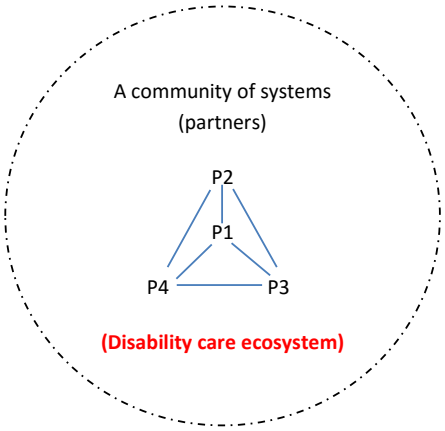


Diagram 2d
A team-based (DP2) disability care ecosystem

It's interesting to compare the above ecosystem with one I was invited to join in 2015. The ecosystem was set up by the owner, who had a great idea of providing energy solutions for people on low incomes such as retirees. Unfortunately, he set it up as a bureaucratic DP1 structure, and during the first workshop it created low trust between partners and within a few months it had disbanded.

Establishing an ecosystem as a bureaucratic DP1 structure produces a group that is maladaptive within itself and with the values and expectations in its external environments.

And because a DP1 structure is designed to create competition, not cooperation, it therefore generates low trust and behaviours such as actively or passively resisting the 'leader'. It also produces small cliques who start gossiping about what the other one or the owner is up to.

This is a disastrous situation for an ecosystem whose members are volunteers. Clearly DP1 ecosystems are unsustainable. To resurrect this situation Cadel has been invited to design a DP2 network partner ecosystem.

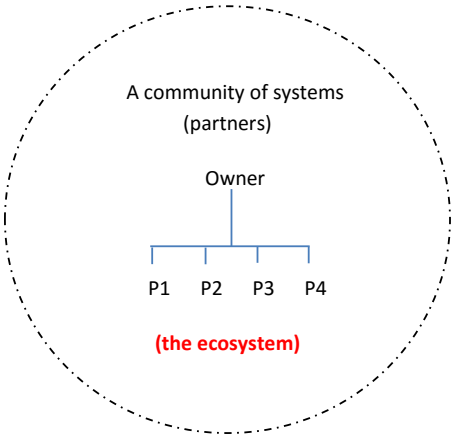


Diagram 2e
A bureaucratic (DP1) ecosystem

Appendix 2: The Search Conference and Participative Design Workshop

Participative strategic planning and organisational (re)design methodologies, which have been translated from OST, were pioneered and researched in the 1960s / 70s by Fred Emery. Up until his death in 1997, he developed and applied these to many diverse organizational and industrial sectors.

All OST methods have been extensively tested in a range of countries and cultures to ensure their reliability and provide new learnings that have been incorporated into OST. Since his death, Merrelyn Emery and other OST practitioners have continued this process, developing new methods and adding further to the theory.

Search Conference

The 'Search Conference' (SC) has been translated from OST and is the name of the participative strategic planning process developed by Fred Emery in 1959 while working for the Tavistock Institute in London. Since its development, Fred, and his partner Merrelyn Emery, have conducted further in depth action research to improve the effectiveness of the SC.

Today it is a well proven planning process for both organisations and communities operating in highly uncertain extended social fields and task environments. It is a highly reliable method for active adaptive strategic planning and is designed to create a learning, planning community committed to its own future.

During a properly planned SC, participants develop common ground around an identified SC purpose, which is expressed as a desirable and achievable future of their system within its contextual environments, and the strategies and action plans to move forward.

Participative Design Workshop

Although the Search Conference creates understanding of how the environment and system fit together for the most desirable future, it is insufficient on its own to maintain active adaptation in the long term. To do this the organisation must change its fundamental structure or design principles, which are explained in Appendix 3.

To change from a DP1 bureaucratic structure to a DP2 democratic team-based structure requires a process, like the Search Conference, that has been translated from Open Systems Theory (OST).

In 1971 Fred Emery developed and pioneered the Participative Design process for changing organisational design principles. It is the most effective and efficient process known today for creating DP2 democratic team-based organisational structures in which members have a shared responsibility for attaining agreed outcomes.

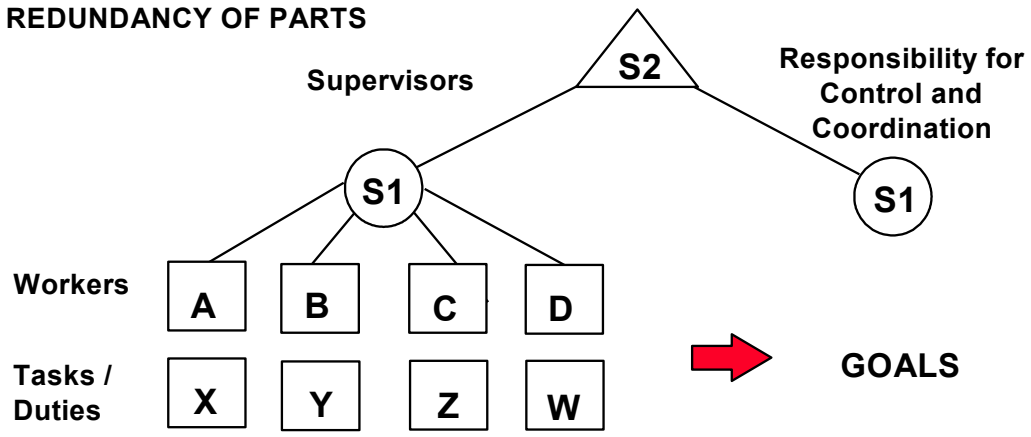
It is a coherent method whereby operational staff and managers within an organisation are given the concepts and tools to redesign their workplace using democratic principles. By pooling employee knowledge and initiatives for change, they themselves can redesign their workplace.

The benefits of establishing DP2 structures by applying the Participative Design process are translated to the bottom line in a relatively short space of time.

Appendix 3: The organisational design principles

Design Principle 1 (DP1)

Diagrammatically, Design Principle 1, commonly known as the bureaucratic structure is as follows:



(Source - Participative Design : Work and Community Life, Fred & Merrelyn Emery)

The key features of Design Principle 1 (DP1) are:

(a) Knowledge and skill levels are not improved because DP1 is a Redundancy of Parts or de-skilling model. (i.e. The structure breaks work into parts or minimal tasks and for the system to cope with different demands, it needs to have excess parts or jobs. In this structure people are treated as replaceable parts or cogs in a machine);

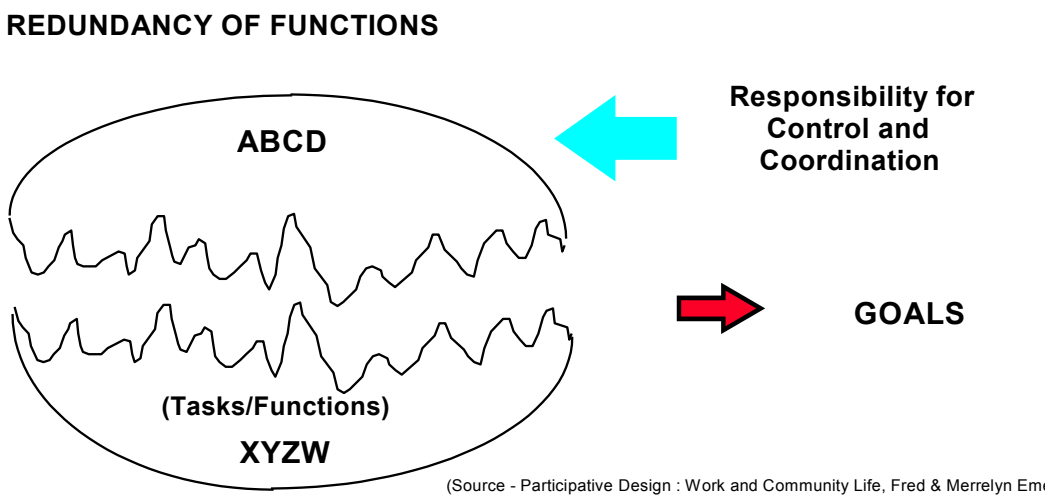
(b) The people who control and coordinate the subordinates are responsible and accountable for reaching the goals; the subordinates are responsible only for doing their job to the standards and time set by supervisors;

(c) The opportunity to learn and develop tacit knowledge that will improve business performance in a DP1 structure is limited because the ability to control and coordinate work is denied. And

(d) The system becomes error amplifying as it is not in an employee's interest to pass up the chain of command any errors that the business should address and learn from but could make an individual appear as a failure in the eyes of a superior. (This finding is further explained in Fred Emery's book titled 'Futures We In'. 1974.)

Design Principle 2 (DP2)

Diagrammatically, Design Principle 2, known as the democratic or self-managing team structure is as follows:



The key features of Design Principle 2 (DP2) are:

(a) Knowledge and skill levels are improved because DP2 is a Redundancy of Functions model (i.e. each individual needs to have excess knowledge and skills to cope with different demands). With the appropriate training, it becomes a system of interchangeable functions across the organisation (e.g. production and maintenance, nursing and case management etc.) as well as a multi-skilling system.

(b) The people who control and coordinate the work are responsible and accountable for reaching their agreed goals;

(c) Essential tacit knowledge increases as employees increase their control and coordination of work and take on more challenging goals to improve organisational performance. And

(d) The system becomes error attenuating because as employees coordinate their work to achieve team goals it's in their interest to address and learn from errors as they come into the system. "Error is coped with by continuous learning and rearrangement of functions." (Emery, F. 1974). Emery also points out that team members will check with each other as to the quality of advice they give to the next hierarchy of function (i.e. middle management or executive management) to help diffuse learning/knowledge across the organisation to improve performance.

(e) Large DP2 structures are non-dominant hierarchies of function where all change is negotiated between peers (Emery M (Ed) 1993, Emery, M. 2016)

Appendix 4: The Conditions for Influential (effective) communication

The following is a summary of 'Managing the conditions for influential, effective communication', which is a necessity for managing a successful Search Conference (Emery, M 1999 page 111)

The Conditions for Influential (effective) Communication	
Theoretical	**Design and management**
1. Openness • For exploration and checking that things are as they appear	• Pre-briefing on content and process • Minimize threat to participation • Clarify roles and values • All records are public (flipchart paper) visual, verbal, vernacular
2. Mutually shared objective field • 'We all live in the same world' • It is commonly but implicitly perceived as background to joint action	• Scan the external social field using ground rule - 'all perceptions are valid' • Data is analysed and synthesized by groups, then reported and negotiated to status of collective ownership
3. Basic psychological similarity • 'We are all human with the same human concerns' • Each person is an action centre and can talk as equals and learn from each other	• Provide opportunities to see commonalties – e.g. a desirable future based on ideals • Use these as basis for cooperative work and the rationalization of conflict
4. Trust: the emergence of individuals as open systems • Will initiate communication that builds confidence, which generates energy leading to action diffusion that builds more self confidence	• No status difference between participants and workshop managers • No management interference in the content • Workshop managers only manage the learning / planning environment and process for all the above
4 = 1 + 2 + 3	
TRUST LEADS TO COLLABORATIVE ACTION AND DIFFUSIVE LEARNING	

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