TESSELL▲TE

Tessellate is a digital workplace assistant targeted at coworking spaces. This concept was developed through an innovation process seeking to address a business challenge facing Desk Space, a coworking space in Sydney.

This report will provide an overview of the Tessellate project from problem definition to solution development, as well as a reflection on the collaborative process of developing and pitching Tessellate.

Prepared by Nusardel Oshana

Student No. 12555797

The Problem

Desk Space cannot <u>engage its members</u> due to <u>underutilised</u>, <u>cluttered communication systems</u>.

Preliminary client research unearthed a variety of business problems, ranging from increased building occupancy to internal strategic shortcomings. These problems were assessed and considered in relation to Desk Space's legacy as Sydney's first coworking space, and the organisation's objective of becoming an international change leader in the coworking community. It was decided that low levels of member engagement were the most pressing and costly issue with the potential to be addressed through an innovation process.

Desk Space is one of 90 coworking spaces in Sydney, and part of a growing international coworking community (Rushfaster 2018). Coworking spaces allow individuals and/ or organisations to rent a work space for a flexible time period. These spaces typically revolve around a particular industry or field of work, and afford members the possibility of developing networks and sharing knowledge (Andrade et al. 2017, p. 168). This heightened potential for networking is a key component of most coworking spaces' value propositions; indeed, Desk Space was created around the 'Make it Together' ethos (Desk Space 2018).

At present, Desk Space is failing to fulfil its value proposition. This failure manifests in:
· Consistently poor attendance and little diversity at Desk Space-run member events
· Conflict between members, e.g. noise complaints, room booking clashes
· Siloed workspaces, with few members interacting within and between levels
· Low engagement on Instagram and with EDMs

Using the **SCAMPER**[1] thinking method these challenges were reframed within a communications context. It was determined that these issues were symptoms of Desk Space's use of multiple, cluttered systems[2] – including Slack, Robin, Envoy and Sonos, each with its own mobile or web app – to connect members with each other and the space. Thus, Desk Space can neither engage its members, nor compete with local and global incumbents, due to cluttered communication systems.

---

[1] SCAMPER is an acronym for: Substitute, Combine, Adjust, Modify, Put to another use, Eliminate, and Reverse, rearrange

[2] Furthermore, using data supplied by Desk Space, the ongoing annual cost of licensing and running multiple communication systems was estimated to be approximately $25,700/year.
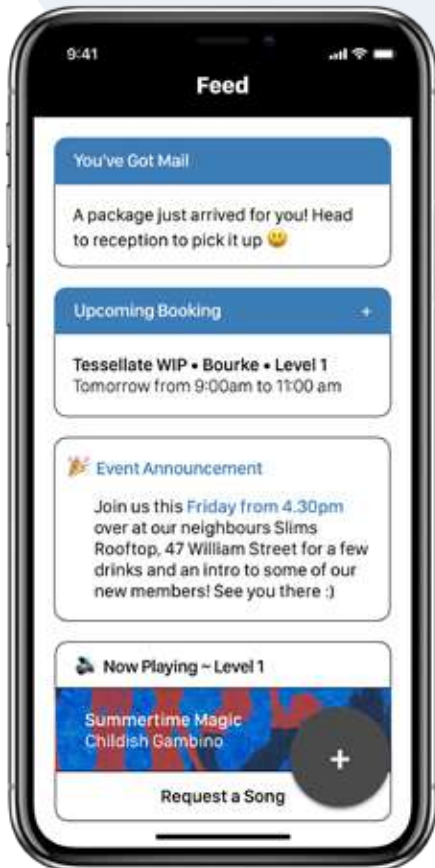
The Solution

TESSELL▲TE

A streamlined mobile platform where members can explore the space and expand their professional network in coworking spaces.
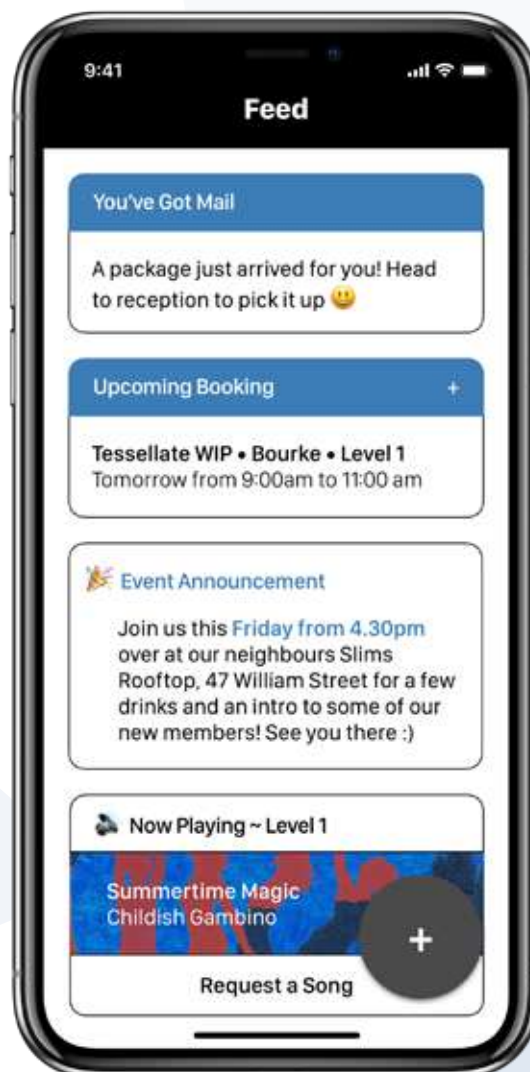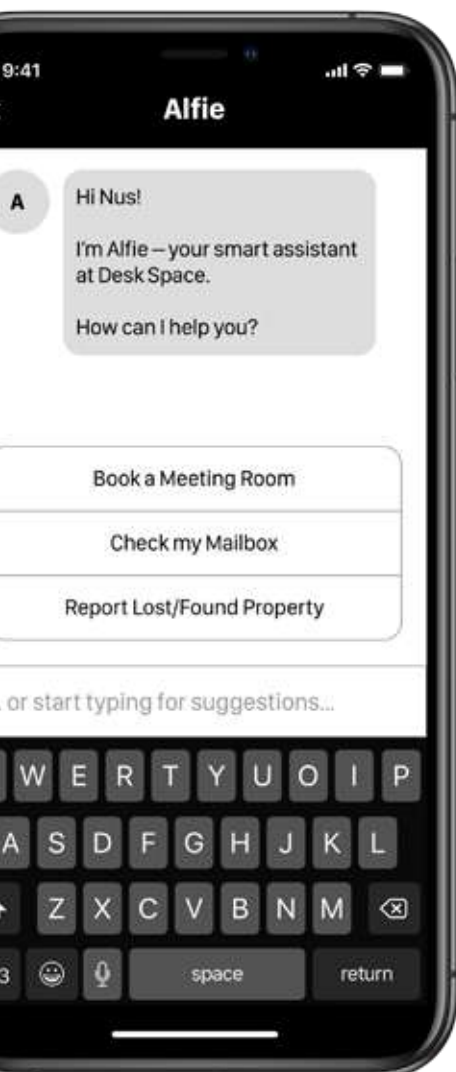
The Solution – Overview

The Feed: Your work day at a glance

The Feed is a dynamic stream of notification cards, offering an overview of announcements, bookings and parcel/visitor notifications among other features. The Feed uses a machine learning algorithm that adapts depending on the individual's patterns of using the app, to make it quicker and easier for each user to find the information and features they need.
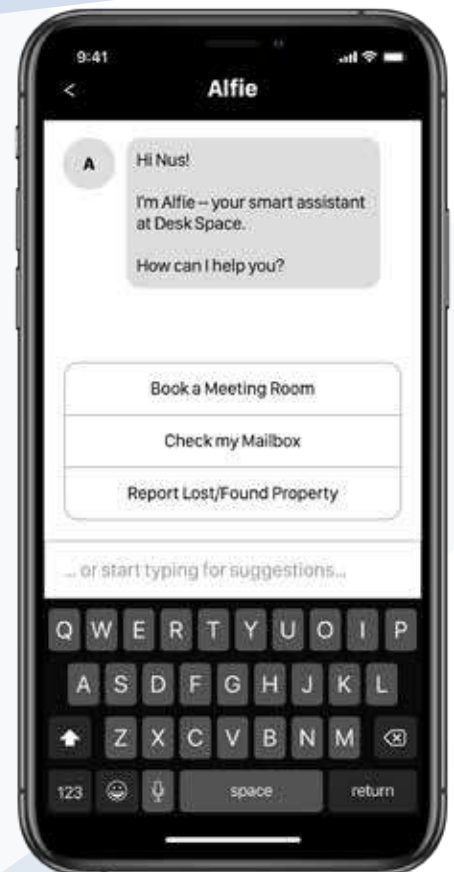
Alfie: Your intelligent personal assistant

Alfie is a smart chatbot that uses a similar algorithm to recommend questions (e.g. "What is the Wi-Fi password?"). Furthermore, Alfie can use natural language processing and predefined information to provide more complex answers, such as explaining that a planned outage is preventing the Wi-Fi from working. Alfie allows members to get a quick and accurate response without needing to email a Desk Space host.

Other notable features

- *Direct API integrations* with common office management systems (e.g. Slack, Robin, sound systems)
- *Streamlined UI*, including a floating action button (pictured on left) that allows users to quickly access key/repeatedly-used features in two taps

The Team

Ellen Law
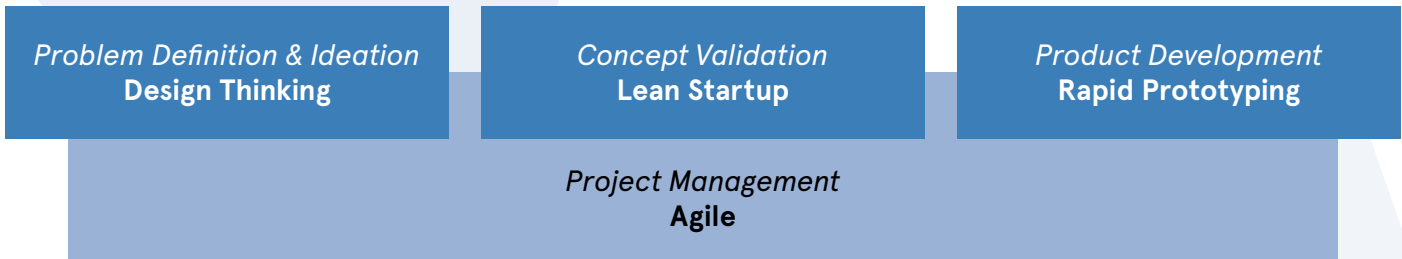Strategist

Nusardel Oshana
Project Manager

Quyen Nguyen
UX/UI Designer

Team roles were determined after each member identified two areas where they excelled and wanted to improve. Work was divided according to these roles, but no hard lines were drawn. As a result, each member had a role in creating or shaping every aspect of the concept, prototype and pitch. As a small team we were able to make most decisions collectively, and often worked on parts of the same task simultaneously (e.g. each prototyping a different screen). We avoided conflict, particularly in the early stages of the project, through breakout exercises where everyone developed their own concept and presented to the group. Having established team values and trust, it was not difficult to make decisions this way.

Individual Contribution

As Project Manager, I oversaw all aspects of Tessellate's development and facilitated the implementation of an Agile/Lean methodology. This involved collaborating with the team to establish expectations, determine the necessary deliverables, fairly distribute work, and set realistic deadlines. Throughout the project, I was responsible for coordinating the team; consolidating individual work into a cohesive prototype and pitch deck; and liaising with our client, Desk Space.

Methodology

Problem Definition & Ideation **Design Thinking**	Concept Validation **Lean Startup**	Product Development **Rapid Prototyping**

Project Management
Agile

The process of creating Tessellate drew on a combination of ideation, validation and development methods, in combination with an **Agile** workflow. In contrast to traditional 'waterfall' workflows, which can be time consuming and prevent a project from delivering a desirable product, Agile software development notably prioritises working software, customer collaboration and responsiveness to change (Cunningham n.d.). In a project management context, Agile provides a framework for creating, embracing and learning from change 'while contributing to perceived customer value' (Dingsøyr et al. 2012, p. 1214).

In practice, Agile involves a constant and consistent process of design, iteration and testing. For instance, in our first meeting for Tessellate, we created a series of wireframes and tested them with low fidelity sketched prototypes. Through designing, iterating and testing wireframes, we were able to decide on the simplified interaction model that characterises the Tessellate user experience. We strived to maintain this level of agility throughout the project, even through to the development of our pitch.

Problem Definition & Ideation

To develop an initial problem definition and product concept, we drew on **design thinking**. This methodology is a simplification of 'designerly thinking' – a range of discourses that view design as a productive, reflexive and/or sense-making activity (Johansson-Sköldberg et al. 2013, p. 124). Put simply, design thinking involves approaching a problem adaptively, and using cumulative knowledge about the problem to define the appropriate 'problem space' where a solution might fit (IDEO 2018; Razzouk & Shute 2012, p. 335). In practice, this involved focusing on client research in the early stages of the project. We conducted individual and group brainstorms to hypothesise the problem space and recognise any internal biases towards a particular focus – for instance, our early definition of the problem prioritised the physical space over communication systems. Employing design thinking – especially in the problem definition and ideation phases – gave the project a clear scope and allowed for a solution that directly addressed the client's problem.

Concept Validation

In this project, the ideal product would both address the problem and offer a return on investment, thus it was important to validate all ideas in a business context before pursuing them. The **Lean Startup** methodology is a prime validation tool as it offers a framework for eliminating uncertainty and reducing costs (i.e. creating 'leanness') in entrepreneurial ventures (The Lean Startup Methodology n.d.; Dingsøyr et al. 2012, p. 1214). The Lean canvas (Figure 1) was a useful practical tool for validating Tessellate as a business, however this was something we struggled with, and this manifested in our pitch feedback.

Figure 1: The first Lean Business Canvas created for Tessellate

Product Development

In keeping with Agile principles, the method of **rapid prototyping** was used to create an interactive prototype of the Tessellate app – this was the minimum viable product (MVP) we developed and pitched. Fixson & Marion (2014, p. 5) describe rapid prototyping as one 'force' in a segmented new product development landscape that also encompasses digital design and a sharing culture. In this landscape, the value of rapid prototyping is that it 'permit[s] almost everyone to engage in the product development process as a designer' (Fixson & Marion 2014, p. 7).

Rapid prototyping – which we achieved through Sketch and Proto.io – proved doubly valuable throughout the project, as our team lacked a trained designer and developer. We were able to mock up the Tessellate UI and create an interactive prototype within two weeks. Rapid prototyping proved to be the perfect complement to Agile and Lean Startup, as it provided a practical means of iterating and testing a product. For instance, Figure 2 shows the initial, intermediate and final iterative stages of designing the Feed. This example demonstrates the use of Agile and rapid prototyping methods to create a MVP which we were able to validate using the Lean Startup method.
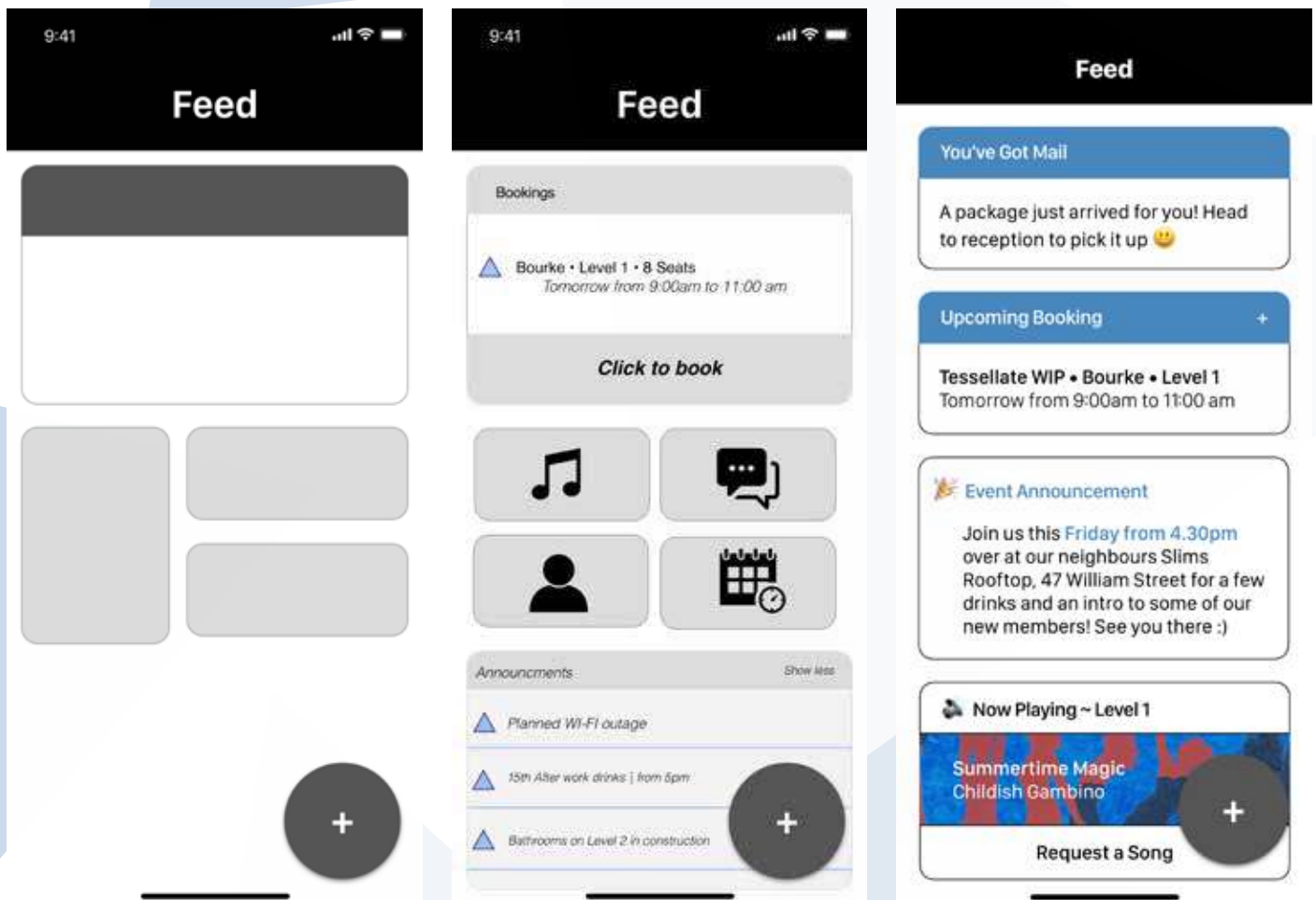

Figure 2, left to right: 'Feed' mockups in chronological order

Pitch Feedback

The feedback on our pitch helped identify three key aspects of the pitch that would benefit from further consideration.

Value Proposition

Following our pitch, the judging panel asked whether we were aware of competitors like Workplace by Facebook. In response, I noted that Workplace offers a one size fits all corporate communication solution, and therefore fails to meet the varied needs of coworking spaces, wherein members already access a diverse range of organisation and management software. This question, however, suggests that our pitch could have better articulated Tessellate's value proposition, and that the value proposition itself could be refined and/or reworked. A fundamental difference between Tessellate and its competitors is that it integrates with existing services to offer a streamlined user experience, rather than aiming to entirely replace those services. A revised concept and pitch might emphasise these API integrations

Business Strategy

An area of our pitch that generated considerable interest among the judging panel was the inclusion of a custom enterprise option, where coworking spaces and organisations could commission a version of Tessellate built to their exact specifications and to meet the unique needs of their members/employees. This was not a major focus of the pitch, and the level of interest it created suggests the Tessellate business strategy might be improved by skewing the strategy towards enterprise clients, rather than a cut-and-dried subscription service.

Scalability and Growth Strategy

The panel also questioned how Tessellate would be presented to prospective clients, and whether the strategy accounted for a business development manager. This was something we accounted for in the budget that was pitched, however the question highlighted an issue that was not considered in the lead-up to the pitch – scalability. This could be addressed by developing a specific strategy for growth, which might stem from creating a more detailed Lean canvas.

References

Andrade, H.d.G.C., Pinto, M.d.R., Almeida, G.T.d. & Mesquita, M.C. 2017, 'I share, therefore i am? The (re) construction of consumer identity by collaborative consumption', REBRAE, vol. 10, no. 1, pp. 167-82.

Cunningham, W. n.d., Manifesto for Agile Software Development, viewed 28 September 2018, <http://agilemanifesto.org/>.

Desk Space 2018, About Us, Coworking Co., Sydney, viewed 16 August 2018 2018, <http://deskspace.com.au/about/>.

Dingsøyr, T., Nerur, S., Balijepally, V. & Moe, N.B. 2012, 'A decade of agile methodologies: Towards explaining agile software development', Journal of Systems and Software, vol. 85, no. 6, pp. 1213-21.

Fixson, S.K. & Marion, T.J. 2014, 'The Segmentation of Innovation: How Digital Design, Rapid Prototyping, and a Sharing Culture are changing the NPD Landscape', Technology, Operations & Information Management Working Papers, no. 6.

IDEO 2018, Design Thinking, viewed 28 September 2018, <https://www.ideou.com/pages/design-thinking>.

Johansson-Sköldberg, U., Woodilla, J. & Çetinkaya, M. 2013, 'Design Thinking: Past, Present and Possible Futures', Creativity & Innovation Management, vol. 22, no. 2, pp. 121-46.

The Lean Startup Methodology n.d., viewed 28 September 2018, <http://theleanstartup.com/principles>.

Razzouk, R. & Shute, V. 2012, 'What Is Design Thinking and Why Is It Important?', Review of Educational Research, vol. 82, no. 3, pp. 330-48.

Rushfaster 2018, Co-Working Spaces Australia, viewed 16 August 2018, <https://docs.google.com/spreadsheets/d/1dBU57ieKMh42rCOkcJK3XXOo4XqyWS3QCn82BDu5XD0/edit?usp=sharing>.

Change Management Strategy

Introduction

Desk Space is a creative coworking space based in Darlinghurst, Sydney, with over 100 members from diverse businesses across media, lifestyle and technology. This evidence-based strategy makes recommendations for Desk Space to implement **Tessellate**, a tailored digital solution for workplace management.

Overview of Tessellate

Tessellate is a digital workplace management system, the first of its kind to include an artificial intelligence (AI) assistant and integrate directly with popular office systems including **Robin** room bookings, **Envoy** visitor management and **Zoom** video conferencing. The mobile app features a streamlined 'feed' layout (see Figure 1) which algorithmically self-arranges to prioritise the user's preferred or required content at any given time.

Currently, Desk Space lacks a consolidated platform for members to book meeting rooms, accept and send courier packages and change the office playlist, among many other functions. These actions are instead possible through a disjointed combination of services including Robin, Envoy and Sonos. Thus there is a precedent for an operational change that would address this problem, such as introducing Tessellate as Desk Space's primary member-facing management platform.

Figure 1: The Tessellate feed

Methodology

This strategy draws on a combination of client consultation, scholarly research and industry literature. A joint consultation with Desk Space's business and experience managers was used to identify challenges and opportunities that Tessellate could help address. A change management approach was created by qualitatively assessing innovation literature to determine the best methods of implementing a digital management solution at Desk Space.

Objectives

Corporate Objectives

Desk Space strives generally to be a space for multidisciplinary collaboration and innovation, encapsulated by their motto: 'make it together' (Desk Space 2018). A consultation with Desk Space's business manager also revealed the organisation is looking to:

- Create new and efficient processes
- Provide surplus value to members
- Create cost efficiencies and reduce waste
- Further engage existing members

Change Management Objectives

This strategy seeks to address the above objectives, and further to:

- Improve members' communication with the experience manager and each other
- Increase use of existing communication and productivity systems
- Future-proof the business as the future of work rapidly becomes the present

Challenges

Size

Desk Space operates with three full-time staff in highly generalised roles, such as the business manager, who additionally deals with contractors and performs minor facilities repairs. This simplifies the change communication process, however having such a small team means customer service inevitably suffers. By comparison, global coworking giant WeWork have a weekly rotating roster of experience managers at their similarly-sized locations; this allows them to individually tailor their customer service to each member. Tessellate's built-in AI assistant allows Desk Space to achieve similar results by acting as an additional experience manager that adapts based on each member's needs.

Revenue Model

Profit margins present a further challenge, as Desk Space currently gets a very small margin of membership fees after operational expenses. The costs associated with providing afterhours access to members, and recently renovating two of their building's three levels, make it difficult to make a costly investment in innovation. It is recommended that Desk Space implement Tessellate as the service has a small annual fee, and will increase members' engagement with existing services at Desk Space (e.g. Envoy and Zoom conferencing), thereby reclaiming the value of subscription fees to services that would otherwise remain underused.

Low Member Engagement

Despite repeated efforts to engage members, Desk Space faces the intractable challenge of creating a culture of collaboration. Coworking spaces should enable the co-creation of social support, networking opportunities and community relationships between freelancers and (often competing) businesses (Gerdenitsch et al. 2016; Spreitzer, Bacevice & Garrett 2015). These supports are typically a result of collaborative consumption (Andrade et al. 2017, p. 175).

This issue creates daily challenges, making simple tasks such as courier pick-ups and drop-offs complicated, messy and time-consuming for all parties. Furthermore, failure to meet this challenge is detrimental to both member satisfaction and Desk Space's ability to compete with the over 90 coworking spaces in Sydney alone (Rushfaster 2018). This issue creates daily challenges, making simple tasks such as courier pick-ups and drop-offs complicated, messy and time-consuming for all parties. Tessellate addresses this issue by providing a simple and direct means for better engaging members with the space and each other, by streamlining many systems into a singular user experience.

Opportunities

Big Data & Personalisation

Supported by the proliferation of Big Data and the growth of data science, the future of decision-making at work will be increasingly personalised (Lytras et al. 2015, p. 1381). To this end, artificial intelligence (AI) algorithms can anticipate workers' needs and increase opportunities for engagement with underutilised services (Khoury 2018). Capitalising on this opportunity early will make Desk Space a global leader in the coworking industry, as coworking organisations have so far failed to accommodate AI, instead focusing on customisation, which offers considerably less options to an increasingly diverse array of users. By integrating with popular workplace management services, Tessellate adds an AI layer to existing management processes, allowing Desk Space to turn the future of AI at work into a reality.

The Future of Work

Coworking has proliferated rapidly in recent years, with the number of members and spaces increasing consistently over the last five years (Mahlberg & Riemer 2017; Statista 2018). In Australia alone, coworking spaces grew by 297% since 2013 (Knight Frank 2017). Desk Space has a unique opportunity to bolster its identity as Sydney's first coworking space, pursuing innovation to once again remain a step ahead of the local industry. For the reasons throughout the above, Tessellate presents one such opportunity to innovate, however this strategy should be seen as a starting point for further innovation in the workplace experience at Desk Space.
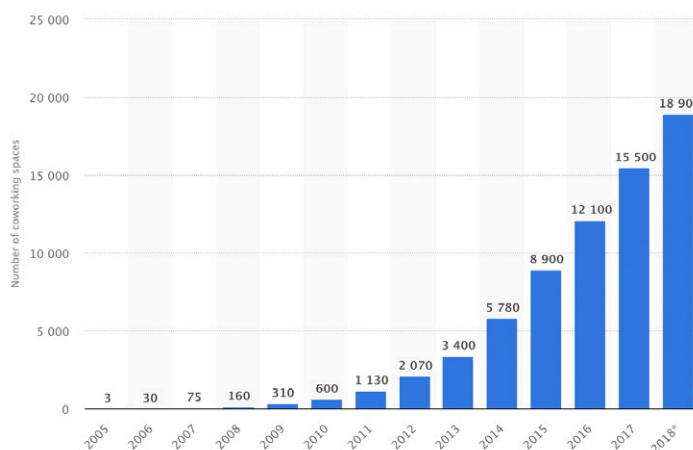

Figure 2: The number of coworking spaces worldwide has increased exponentially since 2013 (Statista 2018)

Approach

Following a formal change management strategy will allow Desk Space to engage all stakeholders to maximum effect, and efficiently allocate resources towards this change.

This strategic approach draws on the principles of human-centred design and Agile development, which together emphasise a dynamic implementation approach which creates, embraces and adapts with change, led by qualitative and quantitative user feedback (Cunningham n.d.; Dingsøyr et al. 2012, p. 1214; Razzouk & Shute 2012, p. 335). To this end, the strategy will be implemented over 6 weeks, in three fortnight sprints.
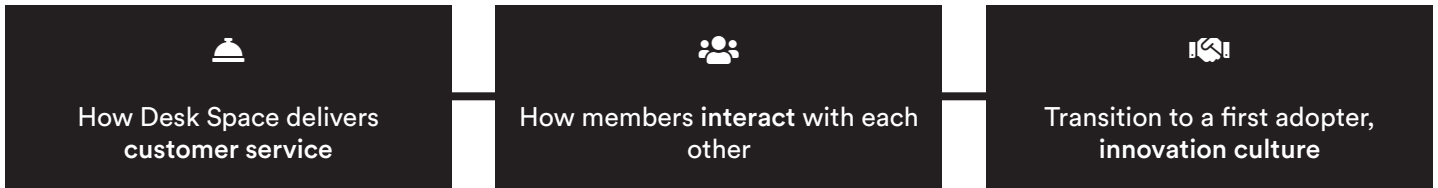
Governance

Enacting this change will require sustained collaboration between the Desk Space team, and myself as project manager. Individual responsibilities are outlined below.

Role	Responsibilities
Project Manager	• Oversight of the change implementation process • Holding implementation teams accountable for real change • Coproducing change messaging and materials • Monitoring change adoption metrics • General point of contact for implementation teams
Managing Director	• Embracing and encouraging change • Setting expectations and reviewing change management results • Providing necessary tools and resources for change to succeed
Business Manager	• Planning and coordinating an updated business strategy to support this change in the long term
Experience Manager	• Championing change through member interactions • Coproducing change messaging and materials • Transferring relevant training and software skills to Desk Space members • Coordinating measurement of change metrics • First point of contact for members

Messaging & Tactics

Change messaging should focus on three key areas which Tessellate will transform:

🛎️	👥	🤝
How Desk Space delivers **customer service**	How members **interact** with each other	Transition to a first adopter, **innovation culture**

Tactics should engage key stakeholders with all three facets of change messaging, with added attention to the most relevant facet(s) in each case. The key stakeholders in this are the Desk Space team and member base, however the Tessellate team should also be factored as contributors to this change. Messaging and tactics for each are detailed below.

Desk Space team

As the prime movers of this change, the Desk Space team will be involved across all areas of strategy implementation. Messaging will prioritise customer service and cultural transformation, emphasising the team's role in improving member services through an active investment in developing an innovation culture.

Messaging will be delivered face-to-face and digitally, in the form of technical training sessions and regular project planning and retrospective/review meetings. This will ensure a balance between corporate and strategic objectives, allowing the Desk Space team to provide feedback that will inform agile adjustments to implementation tactics.

Messages	
What?	Desk Space is introducing an office management system purpose-built for coworking spaces.
Why?	The nature of work is changing. As coworking becomes the norm, coworking spaces have to innovate in order to stay relevant and find efficient ways of managing larger groups of people.
Benefits	This change will shift the way the team works, reducing the proportion of time and money wasted on running software that members don't engage with. By automating menial customer interactions, Tessellate frees up time to engage with members on bigger issues.

Tactics
• Train the trainer sessions to be held during weeks 1-3, allowing time to case test Tessellate at Desk Space
• Member communication materials will be created from scratch, in a codesign process with the project manager and Desk Space team

Desk Space members

As Tessellate's end-users, members will receive change messaging later in the implementation project. Emphasis will be placed on giving members a sense of ownership in the process, through focus groups aimed at refining member-facing messaging and communication materials.

Messaging will be delivered through a mix of physical, digital and hybrid means, including digital posters to be displayed on screens throughout the building, and repackaged as an email marketing campaign.

Messages	
What?	Desk Space is introducing a new, smarter way of working and networking.

Why?	Diverse members have diverse needs and preferences. Traditional communication methods at Desk Space are cluttered and complicated. A new approach is needed, that simplifies everyday processes and makes it easier to collaborate.
Benefits	This change will make day-to-day tasks easier, like planning a meeting or receiving deliveries. Tessellate's smart AI assistant will learn from continued use, developing a shorthand that will continue to save time and effort at work. Getting Desk Space udates in one place will mean a less cluttered inbox and fewer Slack notifications.
Tactics	
• Focus groups to be conducted, allowing time to refine and better target change communication • Digital posters and EDM campaign will inform members of the coming change • Soft launch will give members time to play with Tessellate and conduct peer-to-peer education through word of mouth • Drop-in training sessions to be held during weeks 3-6 • Issue education materials, including short online video tutorials	

Tessellate team

While this strategy does not propose messaging for the Tessellate team, it is necessary to acknowledge that the team will form a crucial role in driving the implementation project. As a co-creator of Tessellate and an implementation project manager, I will be responsible for training the Desk Space team and conducting drop-in training sessions during the initial launch period. Once the implementation project is complete, the Tessellate team will provide over-the-phone and email support to members and the Desk Space team, as well as software maintenance and updates.

Technical Training Plan

Phase	Training
Weeks 1-3	• 'Train the trainer' face-to-face sessions
Weeks 3-6	• Online video tutorials by function • Drop-in sessions for support
Week 6+ (ongoing)	• Support service via in-app chat/email • Online video tutorials by function

Integrated Implementation Plan

	Focus	
	fgfg	
Sprint 1 (Week 1-2)	• Conduct 4x one-hour 'train the trainer' sessions + collect feedback • Initiate weekly sprint planning and retrospective/review meetings • Initiate weekly stakeholder meetings • Create member messaging resources • Recruit members for focus group testing	
Sprint 2 (Week 3-4)	• Soft launch • Gradual rollout of physical and digital messaging (i.e. posters and education resources) • Conduct focus groups to test member resources – iterate as required • Continue 'train the trainer' sessions based on prior feedback	
Sprint 3 (Week 5-6)	• Launch member messaging and education resources • Conduct daily three-hour drop-in training workshops	

Resource Requirements & Budget

As the existing Desk Space team will be engaged as change managers in this process, the costs associated with implementation will mainly involve a rearrangement of work tasks and reallocation of existing resources during the implementation period. The table below outlines the financial costs associated with executing this strategy.

	Cost
Communication	
Design and creation of visual materials	$500
Production of education materials (e.g. video tutorials)	$2000
Additional Staff/Labour	
Project Manager (6 week contract)	$13,200
Total	**$15,700**

Risk Mitigation

Risk Factor	Mitigation Measures
Stakeholders are not prepared for change	Change management takes a top-down/bottom-up approach as part of a holistic view of stakeholder relationships. Leveraging existing teams ensures sensitivity to the Desk Space culture, reducing the risk of misguided action.
Stakeholders do not respond to messaging	Codesign processes ensure consistent dialogue and opportunities to adjust tactics based on feedback.
Strategy requires further time for implementation	Care has been taken to create a realistic timeline while still adhering to the principle of agility. Agile/Scrum workflows emphasise dynamism, so they can easily be adjusted depending on the backlog of tasks.

Evaluation Framework

Performance Indicators

Objectives	Performance Indicators
Ongoing dialogue between key stakeholders	Codesign process used throughout project. Affordances made for feedback and criticism.
Foster engagement with innovation	Engagement metrics including number of user registrations monitored from launch. Feedback and observation used to track progress.
Engage stakeholders with organisational cultural change	Value of innovation communicated through stakeholder messaging. Feedback and surveys used to track progress.

Measurement

The rate of change adoption will be monitored using measurement tactics including:

- Analysis of qualitative and quantitative surveys
- Measurement of software analytics
- Observation of face-to-face and digital interactions

Conclusion

Desk Space is uniquely poised to address internal business challenges and seize innovation opportunities by adopting the Tessellate workplace management system. This strategy has proposed a flexible model for change management during the implementation of this innovation over six weeks. Cost, risk and evaluation considerations have been made to ensure that an Agile implementation approach will succeed. I am excited to be involved as a project manager throughout this process, and look forward to strengthening Desk Space's culture of innovation.

Prepared by Nusardel Oshana, Innovation Strategist

hello@nusardel.com

References

Andrade, H.d.G.C., Pinto, M.d.R., Almeida, G.T.d. & Mesquita, M.C. 2017, 'I share, therefore i am? The (re) construction of consumer identity by collaborative consumption', REBRAE, vol. 10, no. 1, pp. 167-82.

Cunningham, W. n.d., Manifesto for Agile Software Development, viewed 28 September 2018, <http://agilemanifesto.org/>.

Desk Space 2018, About Us, Coworking Co., Sydney, viewed 16 August 2018 2018, <http://deskspace.com.au/about/>.

Dingsøyr, T., Nerur, S., Balijepally, V. & Moe, N.B. 2012, 'A decade of agile methodologies: Towards explaining agile software development', Journal of Systems and Software, vol. 85, no. 6, pp. 1213-21.

Gerdenitsch, C., Scheel, T.E., Andorfer, J. & Korunka, C. 2016, 'Coworking Spaces: A Source of Social Support for Independent Professionals', Frontiers in Psychology, vol. 7, no. 581, pp. 1-12.

Khoury, S.O. 2018, 'Designing the Future of Work', Google Design, weblog, Medium, <https://medium.com/google-design/designing-the-future-of-work-c84e9b3e63>.

Knight Frank 2017, Co-working space grows by 62% across Australia over past year, Sydney, viewed 18 October 2018, <https://www.knightfrank.com.au/news/co-working-space-grows-by-62-across-australia-over-past-year-012076.aspx>.

Lytras, M., Al-Halabi, W., Zhang, J.X., Haraty, R. & Masud, M. 2015, 'Enabling technologies and business infrastructures for next generation social media: Big data, cloud computing, internet of things and virtual reality', Journal of Universal Computer Science, vol. 21, no. 11, pp. 1379-84.

Mahlberg, T. & Riemer, K. 2017, Coworking Spaces Australia: The new places where people work, businesses grow, and corporates connect., Sydney Business Insights, Sydney, viewed 18 October 2018, <http://sbi.sydney.edu.au/coworking-spaces-australia/>.

Razzouk, R. & Shute, V. 2012, 'What Is Design Thinking and Why Is It Important?', Review of Educational Research, vol. 82, no. 3, pp. 330-48.

Rushfaster 2018, Co-Working Spaces Australia, viewed 16 August 2018, <https://docs.google.com/spreadsheets/d/1dBU57ieKMh42rCOkcJK3XXOo4XqyWS3QCn82BDu5XD0/edit?usp=sharing>.

Spreitzer, G., Bacevice, P. & Garrett, L. 2015, Why People Thrive in Coworking Spaces, Harvard Business Review, Cambridge, viewed 16 August 2018, <https://hbr.org/2015/05/why-people-thrive-in-coworking-spaces>.

Statista 2018, Number of coworking spaces worldwide from 2005 to 2018, viewed 19 October 2018, <https://www.statista.com/statistics/554273/number-of-coworking-spaces-worldwide/>.