

Destination, Anywhere?

The role of roadmapping, and how to keep on track

Based on a programme of research from Oakland Innovation

At Oakland Innovation, we've noted a significant rise in clients' interest in roadmapping over recent years. As a science-based innovation consultancy we support the early stages of technology and product development - organisations engage us seeking help to explore new opportunity spaces or consider possible new investments. This led us to ask what core motivations drive roadmapping initiatives and why companies are increasingly looking to external support.

Are we seeing more activity due to the increasing pace of technological change and the opportunities this presents, or as a response to a need to focus innovation effort and budget in the most efficient ways? The big players in many markets are experiencing new types of challenge both technical and commercial so perhaps the ever present threat of disruption is leading organisations to focus more intently on what they do.

The term "roadmapping" itself may be increasing in currency. As our survey results show, it is a label applied to a wide range of substantially different activities so potentially a badge that helps to liberate budget for 'business as usual' activities.



We wanted to better understand the roadmapping trend and its drivers. We also wondered if there was something specific that encouraged companies to engage an external consultancy to assist with these initiatives.

This report outlines the findings of a roadmapping survey we undertook with industry professionals. It points to some interesting ideas about how organisations are preparing for the future in an uncertain age characterised by digital transformation.

1. What we did

Towards the end of 2017, we surveyed attitudes to roadmapping amongst industry professionals. We prepared an online questionnaire with a mix of quantitative and qualitative (free text) questions. This was promoted via business networks and email, generating 113 responses.

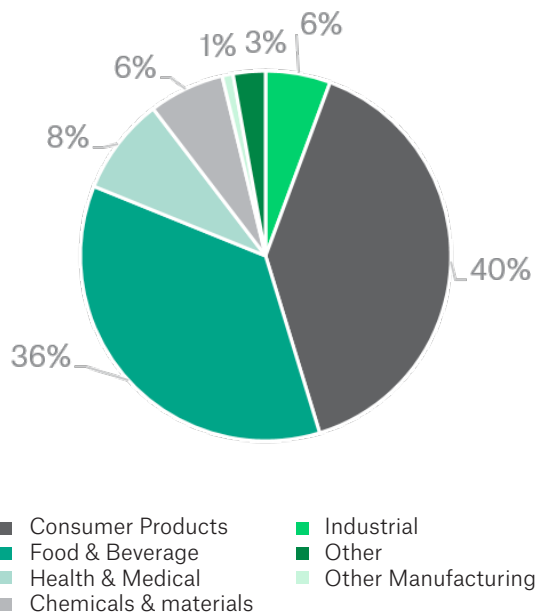


Figure 1

Inevitably with this type of research there are biases in the data. Because we invited people to take part, the respondents are self-selected. Therefore, we would anticipate a more favourable attitude towards roadmapping and a certain level of knowledge surrounding it. Responses are also heavily weighted towards consumer markets such as food & beverage and consumer products. This suggests that the findings are most representative of a product-minded, B2C world. Our results are also dominated by people who work in R&D (53% of respondents) and Innovation (33%). But as roadmapping typically has a strong technology theme, this constituency is likely to have an informed perspective on how these types of project pan out in their organisations.

We asked questions relating to:

- The definition of roadmapping
- Ascertaining which function owns the job of roadmapping
- The extent to which organisations were advocates of roadmapping
- When and why respondents would advocate

To provide some context, Figures 1 and 2 show a breakdown of respondents' job roles and the market sectors they operate in.

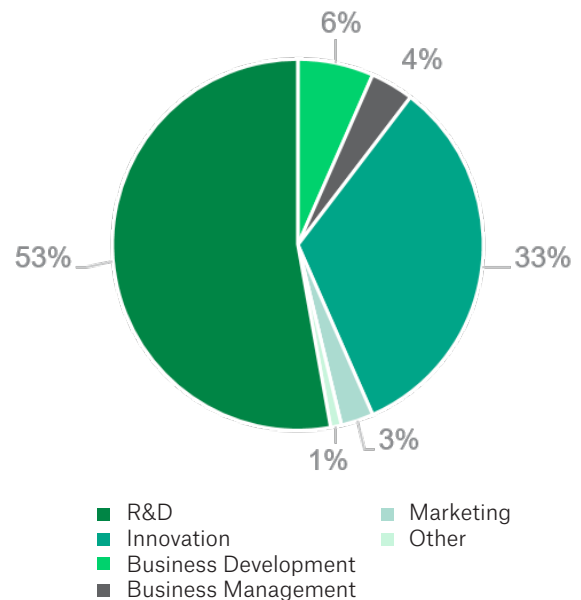


Figure 2

roadmapping exercises

- The considerations, activities and process steps most important in terms of creating meaningful roadmaps
- What can be done to ensure the output is actionable and impactful for the organisation
- Which of the above would be most likely to increase use of roadmapping if addressed
- Whether respondents believe their organisation needs more or less roadmapping

We collated responses and interpreted the data to provide actionable insights for organisations and individuals who use or want to use roadmapping. Michael Zeitlyn, MD of Oakland Innovation, presented our initial findings at the Innovation Roundtable summit and this paper summarises them for a wider audience. We are very happy to discuss this research with you in more detail, or to advise on any roadmapping projects you're undertaking.

Do get in touch: info@oaklandinnovation.com

2. Roadmapping: definition and ownership

Before drilling down into respondents' roadmapping experiences, we presented a working definition of the term:

Roadmapping

A form of strategic plan outlining the activities that might be undertaken over a defined time period to achieve specific goals and outcomes.

- *Product roadmaps show how products/services will evolve to match future market needs and opportunities*
- *Technology roadmaps chart how the technology may need to be developed to support the product roadmap*
- *They serve to highlight key knowledge or capability gaps that need to be addressed*

There was general agreement with this broad description of roadmapping. Many respondents also shared the view that roadmaps have an inherent fluidity that sets them apart from project plans. Traditional project plans focus on a specific goal and define the actions to achieve it within a certain timeframe. Roadmaps also include an end goal. But that goal may or may not be defined in rigid terms, and there is acceptance of a level of uncertainty as many internal and external factors can influence the journey to fulfilment. Priorities can shift as you pass through various decision points. A roadmap is a living document that is revisited and adjusted along the way.

→ Product & technology roadmaps

We discovered some interesting nuances in how roadmapping was interpreted and implemented by different respondents. Some of these differences were rooted in the type of roadmap deployed. Broadly speaking, they can be considered in terms of 'product' and 'technology'.

→ Product roadmaps

These are often founded on outline developmental milestones. From the high-level milestones, cascade

the definition of the enabling technologies and related capabilities needed to deliver these goals. Additionally they allow for the identification of critical capability gaps and point to the need for either growing internal competence or recruiting partners to fill these gaps.

→ Technology roadmaps

These look at how a given technology might evolve and translate into potential market opportunities. They may look at sector-specific or business-specific applications that could be ripe for disruption. The journey captured in the roadmap creates a pathway for its commercial evolution.

→ An enthusiasm for problem-solving

Regardless of how and why roadmapping is deployed, one of its core functions is gap analysis. It forces you to think about what needs to be true – in terms of technologies or capabilities – to make the leaps required to drive the organisation forward. It spotlights areas where partnerships may need to be forged externally. And it provides an overarching perspective of variables that will help or hinder progress.

A roadmap frequently doesn't provide solutions – it highlights the problems and may signpost likely solution options. That's where the value lies. It provides a clear view of multiple influencing factors to underpin realistic milestones, setting an effective prioritisation of effort.

It is perhaps no surprise that more than half (51%) of our respondents believe roadmapping principally sits in the problem-solving domain of R&D. They are enthusiastic advocates of the benefits roadmapping can offer their organisations and 62% want to see the process used more frequently.

3. Why roadmap, and when?

“Without a roadmap we’re all just aimlessly wandering around. Not bad if you’re Tolkien but the rest of us need a bit of direction.”

This was one of the more amusing responses to the question ‘why would you roadmap?’ however, it raises a fundamental question in approach: is roadmapping part of day-to-day routine, or a tool deployed for specific needs?

As section 2 illustrates, most respondents agreed that a roadmap is about finding a path to a point in the future. But for some, this is a business as usual (“BAU”) activity used to evolve the core business, whereas for others it’s a tool in the armory deployed to respond to impending threats.

The chart below summarises respondents’ thoughts on the question of when to roadmap:

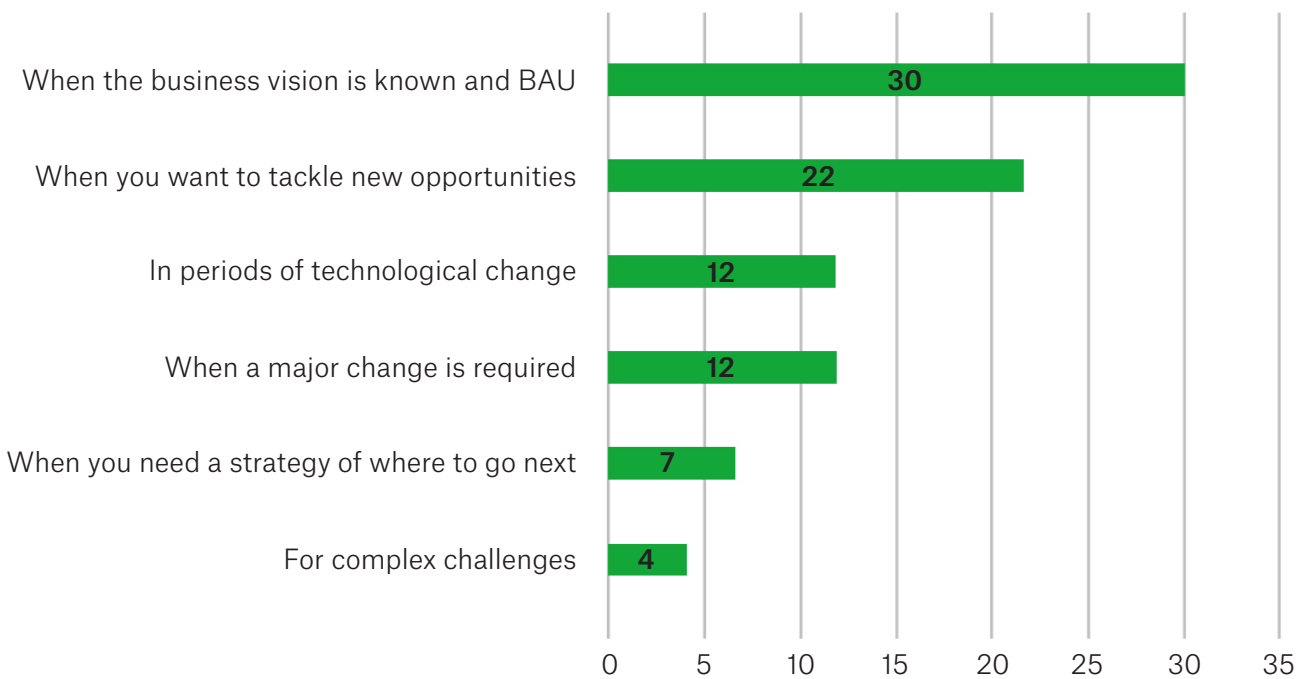


Figure 3: when should you use roadmapping?

Respondents in the business as usual (BAU) camp insisted that roadmapping is required:

“Always. Everyone needs a roadmap to know where we’re going.”

“When the business vision/aim is known”

For other organisations, roadmapping is deployed in projects where the endpoint is undefined but the need for change is recognised. In these circumstances, the process can be just as important as the deliverable. Respondents made comments such as:

“If a ‘disruptive’ technology is observed, rather than going straight for it, I would recommend developing a roadmap that gets you to it with incremental developments - allowing time to develop. In general

roadmaps are needed to understand where categories are headed as part of a 3-5 year plan.”

They said they’d be likely to use roadmapping:

“When a technology evolution is expected but not planned, or nature of evolution unclear.”

“When I don’t know how to achieve a step change in performance.”

“If you want to participate in new or upcoming markets.”

These statements point to roadmapping serving as a means of trying to embrace the unknown within a manageable execution plan.

The two sets of responses may simply reflect different organisations' comfort levels in relation to change, or the way they articulate it. For an organisation with high product innovation throughput, change may be business as usual, so planning for it is an ordinary part of R&D. Indeed, as one respondent put it, the purpose of roadmapping is: "To ensure we have a pipeline of new products and innovation."

The awareness of technological change is in itself another driver. Tools and media that bring focus

on new technology and emerging threats have proliferated. People are likely more aware of the dynamic and unpredictable nature of their business future than ever before. The roadmap provides a point of reference and offers some sense of order in what can seem to be a chaotic environment. Answers underscoring this point include: "[We use it] to visualize and monitor effectively the milestones of progress across a range of technologies being invested in".

4. Roadmapping functions

To achieve deeper insights, we synthesised the qualitative feedback from this central point about 'when and why'. By grouping responses into buckets related to different functions we revealed the core purposes of roadmapping, as illustrated in Figure 4.

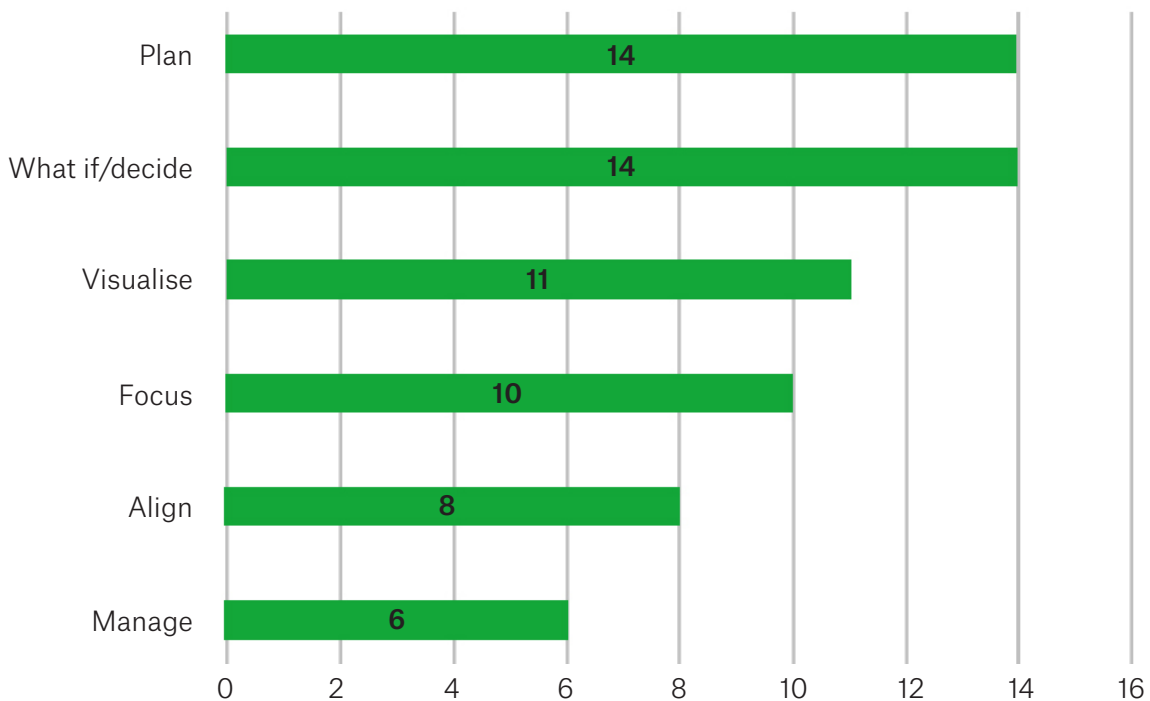


Figure 4: when and why would you advocate the use of roadmaps?

Roadmapping's value as a planning tool is clear. Many respondents talked about delivery of projects, products or technologies. But its use as a decision-making tool has equal weighting. In some cases, a roadmap might never become a deliverable - it's more importantly a process undertaken to see if a given market or technology is viable. As one of our respondents put

it, "The intent of roadmaps is 'informed choices' on path(s) being taken. Hence, roadmaps should involve (a) assumptions, (b) limitations (c) choices and (d) consequences."

This is a pretty different beast to the perspective of a respondent who clearly views a roadmap as a planning

tool: "It's critical to know 'where you want to end up' with a project (product or technology or both) and at a minimum the key 'buckets' of work required to get there - adjustments can and should be made along the journey."

Visualisation was another key purpose for many. Respondents felt that in circumstances where there's a need for buy-in from multiple stakeholders, roadmaps

are an effective tool to convey a vision. This was closely connected to 'focus', facilitating more informed decisions about priorities for investment or resources.

The beneficial role roadmaps can play in alignment of resources, stakeholders and milestones also came through in many responses prioritise what to fast track and what to delay.

5. How to make roadmapping count

When we asked about key considerations for creating meaningful roadmaps (Figure 5), the most prominent factor that emerged was the need for cross-functional teams involving the right people. This was cited by almost a third (29%) of respondents.

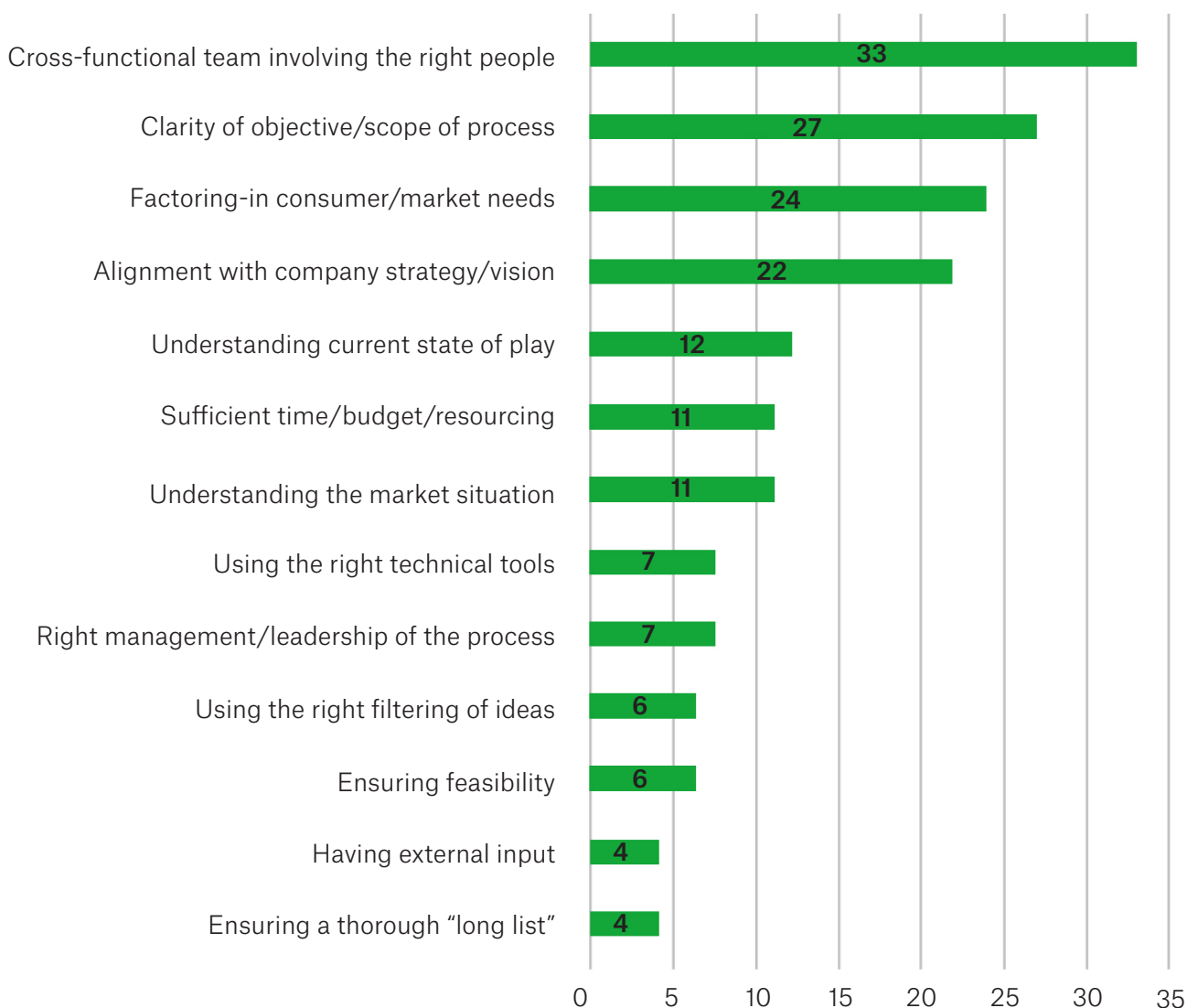


Figure 5: key considerations for meaningful roadmaps

Typical comments included:

“A meaningful roadmap results from creation and maintenance by a multi-functional team and has buy-in from executive management.”

And:

“Engage a multi-disciplinary team and invite other functions to the roadmapping journey.”

Interestingly, by comparison, only 6% of respondents mentioned a need for the right management/ leadership of the project. Clearly, roadmapping is seen as a collaborative effort. At its best, it has a wide perspective, drawing on expertise and input from across the breadth of the organisation. And it needs to be joined up with the core business, rather than being ringfenced or detached. As one respondent stressed “Roadmaps cannot be done in isolation and must consider how the vision (and activities) fits into the wider business and legal/regulatory areas.”

Many respondents talked about the need to involve the ‘right people’. It’s about harnessing input from individuals who have the depth of expertise or insight to make a meaningful contribution: “The correct stakeholder input may be higher in the organisation than you think it will need to be.” However, the involvement of senior players needs to be carefully managed, so that maximum use is made of any time they commit to the process.

6. Actionable, impactful output

For many organisations, the roadmapping journey is just as important as the final destination. When we asked what could be done to ensure roadmapping output is actionable and impactful (see Figure 6), there was a common consensus that “This is the tricky bit!”. Nevertheless, it is necessary to deliver tangible outcomes that indicate what needs to be done next.

It was no surprise that the need for ‘realistic or achievable output’ was cited by more respondents than any other factor. More interesting is the disparity between ‘storytelling and communication’ which was mentioned by 18% of respondents and ‘clear action plans’ which only featured in 7% of responses.

Additional ‘key considerations’ cited by around a fifth of respondents focused on clarity of objectives/scope of process (23%), consumer/market needs (21%) and alignment with company strategy/vision (19%). There was a sense that the inherent fluidity of roadmapping needs to be countered with a purposeful attitude and informed decision making. Hammering out the detail and capturing as much information as possible at the start of the process is essential: “It’s key to understand the vision in fundamental terms - not just in the vocabulary first used to describe a vision. Often, we are too superficial in the input or output vocabulary we use.”

From the outset, this requires a deep understanding of the wider environment and customer needs. These insights should be harnessed from all relevant areas of the business: “Great immersion and learning to kick things off is most important. Without that grounding, the roadmap is meaningless.”

Firm foundations ensure that changes encountered, or findings revealed, during the process can be handled intelligently and effectively. One respondent talked about the need for: “Clear and concise understanding and definition of the problem or desired product - clear goal. An iterative process to funnel in and ultimately focus on the most relevant areas and findings.”

Roadmapping is about finding the way to achieve a vision, but it shouldn’t take the form of highly detailed or prescribed tactics and actions. “Simple and clear communication” is best. One respondent strongly believed that output should be presented as a one-pager:

“Keep it large and visible, ensure it’s the centre point of any project discussion. It’s always precisely wrong but roughly right so treat it as such i.e. course correction is required, a discussion to drive action and next steps. If it doesn’t fit on one large sheet of paper bin it and start again – it’s too complicated.”



Figure 6: making output actionable and meaningful

Another suggests that overly detailed output can be a symptom of not involving the right people, suggesting that roadmapping “Should be led by experts from marketing, R&D and engineering. Delegating it down to junior people frequently results in exquisitely detailed roadmaps that solve the wrong problems.”

While 86% of our respondents work in R&D or innovation functions, the need for active collaboration with marketing came up repeatedly, especially in relation to the communication of outputs:

“Roadmap development must include representatives of every function (or at least all key ones) to gain commitment and credibility. For sure, R&D cannot show up at marketing’s doorstep with a completed roadmap.”

Marketing expertise is valuable to help achieve stakeholder and management buy-in. Output needs to be communicated in a common language that is accessible to all parties: “Include a translation step from the roadmap (too technical) to a business language roadmap to engage senior management”.

Lack of vision is the principle barrier to progress that roadmapping seeks to overcome. Since long term goals can be contradictory to the short-term pull of daily tasks, conveying the vision and articulating requirements in a way that galvanises people to act is essential:

You need to develop a compelling narrative around the future that is being envisaged, the return on the investment that is anticipated, and the consistency with the company strategy and values.

It’s important that the roadmap remains relevant and is viewed as a living document beyond the initial process. It begins by energising and focusing stakeholders, but through frequent refresh then becomes an enduring point of reference as progress is made.

7. Reflecting on the whys and wherefores

Our survey set out to shed light on the roadmapping trend and what it might signify. What we discovered is that the process is handled and articulated in many ways. Some very firmly held beliefs are not necessarily ubiquitous, yet most responses are variations on a theme. It appears that the central purpose of roadmapping in all its forms is to ensure an organisation continues to make informed progress despite uncertainties that are beyond its control. As one respondent explains:

“We are trying to look ahead into a very uncertain future and we shouldn’t become fixed on a certain plan which may become updated and irrelevant, we need to keep our roadmaps and actions current and flexible.”

So, roadmaps represent a path to a future destination in a complex, ever-changing environment. The destination may or may not be known at the outset. Indeed, it may change mid-journey. One respondent believes roadmapping is about “**Considering multiple routes to achieving the solution as opposed to THE SOLUTION.**”

Roadmapping enables organisations to embrace fluidity within a strategic framework. Various internal or external factors might result in a change of course, but they won’t derail the activity. Fluidity is acceptable, even necessary, but a nebulous approach is not. Effective roadmapping ensures the right balance is struck. Figure 7 outlines the key themes that our survey revealed.



Figure 7: major themes

From digital transformation to Brexit to the escalating sustainability agenda, we are living in an age of momentous and rapidly evolving change. Business leaders have a lot to contend with. But the only option

is to keep moving forward, striving for differentiation and success, while acknowledging that the destination might change along the way.

8. How Oakland can help

With Oakland Innovation's involvement in roadmapping on the up, we were keen to understand why external support is needed for these projects. So we asked respondents about the key barriers to roadmapping within their organisations. The findings are presented in Figure 8.



Figure 8: important barriers to remove

Almost a third of respondents (32%) mentioned a lack of long-term vision in their organisation. This was closely followed by 'lack of commitment' and time/resource issues, each cited by around a quarter. Just over a fifth (21%) said there was a lack of understanding of the need for roadmapping.

The bottom line is that the people who need to be involved in roadmapping are in high demand. What's more, the process often has a global context, so practical issues associated with multiple locations

and time zones can be a limiting factor. It's vital to find ways of working that respect this and make maximum use of the time people are able to invest.

Roadmaps must be owned by the company but there are good reasons why third-party organisations such as Oakland Innovation are frequently engaged to support these initiatives. There is undoubted value in having someone with experience of the process to help the internal team navigate this process – most people in large corporations though familiar

with roadmapping, have relatively limited hands-on experience of running the process from origination through to completion. In contrast, an external partner may undertake multiple roadmapping projects each year. Beyond simple experience there are more substantive reasons to justify third party involvement. A successful roadmap will harness the internal knowledge, explicit and tacit, held by the organisation. It draws on fact and opinion and can be influenced by passion and belief. The deductions and conclusions need to be kept grounded with assumptions challenged and horizons stretched. Accessing this knowledge can both be time consuming and challenging. Decoding it and differentiating the fact from presumption is equally important. Third-parties such as Oakland can be better able to negotiate some of these internal challenges and so ensure the output is founded on a robust and insightful data.

Oakland has a strong base of experience in roadmapping. Our advice to anyone starting this journey is to focus on some basic principles. As we tackle these programs we aim to:

→ **Establish a common purpose**

The term 'roadmapping' is widely used and loosely interpreted. There needs to be a shared vision of what the roadmap will enable the business to do and how it will be used once completed.

→ **Win the buy-in of the key stakeholders**

To be successful the roadmap must be 'owned' by the organisation. We always speak to key stakeholders, ensuring they are aligned in terms of the expected outcome. We ascertain their level of commitment and what they will require for the roadmap to be useful and actionable. This serves to set the tone, establishes a reference set of expectations which the team can work to.

→ **Make it easy for those that matter to engage in the process**

In large organisations, especially those with global operations, it's rarely possible to get all stakeholders in the room at the same time. To ensure the roadmap benefits from the input of key individuals we run one-to-one consultations with key stakeholders, allowing them to share their insights and opinions. The output of these sessions is then integrated and worked-on by a small core team who collaborate, often virtually to build and annotate the map. This enables people to commit less time for the same end goal. Ideas are shared amongst all stakeholders throughout the process so there are no last-minute surprises.

→ **Provide stimulus to stretch thinking and challenge/verify key assumptions**

Though organisations often have much of the necessary knowledge already available to them there is always the risk of being blindsided. Throughout the process it is critical to ensure that external stimulus is fed into the process in order to challenge assumptions and extend horizons. In any roadmap there will be some key assumptions and these need to be sense checked, stepping outside of the organisation to verify what might or might not be technically possible or commercially practical.

The goal of roadmapping is to facilitate an organisation's journey towards a long-term vision. Oakland can streamline this complex process, ensuring major players are actively involved at pivotal points. We help orchestrate an outcome that inspires and energises the team to raise their sights before taking the next step on the journey.