

Programme: BA Leadership and Management Module: Design Thinking and Innovation Module code: LCLM 6002

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Assignment Title: Innovation & Customer Journey

Digital Innovation and Design Thinking at Octopus Energy Ltd

1. Introduction to the Chosen Organisation

Octopus Energy Ltd is a UK-based energy supplier founded in 2015, operating within a highly regulated and traditionally conservative industry. Unlike incumbent “Big Six” energy companies, Octopus Energy has positioned itself as a technology led, customer centric organisation, using digital platforms and design thinking principles to disrupt conventional energy provision models. The company supplies gas and electricity to millions of UK households and has expanded internationally while retaining its UK operational core.

Octopus Energy’s business model is underpinned by its proprietary digital platform, Kraken, which automates customer service processes, billing, and energy management. This platform driven approach enables Octopus Energy to deliver lower operational costs, improved customer experiences, and greater flexibility in responding to consumer needs. As a result, the organisation has consistently achieved high customer satisfaction scores and has differentiated itself within an industry often criticised for poor service and low trust.

This assessment critically analyses Octopus Energy’s approach to innovation and design thinking through the application of the Innovation Ambition Matrix and Customer Journey Mapping. These frameworks are used to evaluate the organisation’s current innovation activities and customer experience, identify existing challenges, and uncover opportunities for further digital innovation. Based on this analysis, a new digital

transformation initiative will be proposed in Part 2 to enhance customer value and organisational performance.

2. Key Consumer and Industry Trends Affecting Octopus Energy

2.1 UK Energy Market Context

The UK energy sector has experienced major changes during the last ten years because of new regulations and decreasing carbon emissions and better technology and changing customer needs. The implementation of price caps by Ofgem together with increased monitoring of energy supplier operations has forced companies to reduce their profit margins and improve their operational performance. The sector faces rising financial risks because wholesale energy prices have become more volatile. The cost-of-living crisis has made energy consumption evolve from being an unimportant utility to a critical household matter which people now actively monitor. Customers today want to see clear prices and fair deals from suppliers while they also want to have easy access to digital services.

2.2 Changing Consumer Expectations

Modern UK consumers increasingly expect:

- Transparent pricing and clear communication
- Simple, intuitive digital interfaces
- Ethical and sustainable business practices
- Personalised and flexible energy usage options

The established expectations follow digital service patterns which now require users to experience seamless interactions through design approaches that focus on human needs. Design thinking functions as a fundamental strategic ability which surpasses its role as an innovation tool in this specific situation. Octopus Energy has used customer expectations to create a simple tariff system which avoids complicated pricing methods while delivering excellent customer service. The sector needs to keep developing its digital capabilities through innovative approaches because early market advantages will not sustain its competitive edge.

2.3 Technological and Sustainability Trends

The UK's commitment to net-zero emissions has accelerated the adoption of:

- Smart meters
- Electric vehicles (EVs)
- Domestic renewable energy generation

These developments create both opportunities and challenges for energy suppliers. Organisations must manage more complex energy flows, real-time data, and customer behaviours while ensuring that technology adoption does not alienate less digitally confident customers.

Octopus Energy's technology led approach positions it well to respond to these trends, but it also raises questions regarding scalability, inclusivity, and long-term customer engagement.

2.4 Design Thinking in the Context of the Energy Sector

Design thinking functions as a human-centered method which solves problems through iterative processes that combine user empathy with creative thinking and rational evaluation (Brown, 2008). Design thinking operates differently from traditional analytical or managerial thinking because it starts by understanding user needs before it explores various solutions which lead to the result.

The energy sector along with other highly regulated fields depends on systems thinking and engineering-based methods to advance innovation because these approaches focus on maintaining reliability and following regulations while keeping costs under control.

These essential methods fail to consider customer experience which leads to decreased customer involvement and creates trust issues and negative service quality perceptions. Design thinking provides an alternative method of thinking which solves these problems through its focus on understanding customer requirements and their emotional responses and behavioral patterns.

The design thinking approach at Octopus Energy enables the company to connect its advanced technology with what its customers need.

The organisation achieved its digital infrastructure and automation goals through Kraken platform investment, but these advancements need to create actual customer benefits to achieve their full potential. The distinction between these two approaches stands as a vital factor because digital transformation initiatives which lack design

thinking principles will develop into technology-based systems instead of people-oriented solutions.

Octopus Energy should implement design thinking as part of its innovation plan to create complete solutions which enable customers to take control of their energy usage. The learning outcome requires students to identify design thinking differences from other mental processes while showing its practical value for solving actual business problems.

3. Part 1: Analysis of Octopus Energy's Approach to Innovation

3.1 Application of the Innovation Ambition Matrix

The Innovation Ambition Matrix serves as an effective tool which helps organizations classify their innovation efforts based on their level of ambition and their willingness to take risks. The framework enables organizations to evaluate their strategic direction through its distinction between core and adjacent and transformational innovation. Core Innovation Octopus Energy dedicates most of its innovation efforts to enhancing its current service offerings and operational systems.

Examples include Ongoing optimisation of the Kraken platform the system makes continuous enhancements to its customer onboarding and billing operations. Enhancements to digital customer service tools the programs concentrate on delivering efficient operations which provide reliable services to satisfy customer needs.

Octopus Energy achieves cost reduction and enhanced service delivery through its automated system which handles standard operations. The organization demonstrates a clear connection between its fundamental innovation process and customer-focused design thinking approach. Core innovation by itself does not provide enough power to maintain lasting market leadership because competitors can easily replicate these technologies and digital methods.

Adjacent Innovation

Octopus Energy shows substantial adjacent innovation activity because of its following initiatives:

Smart tariffs linked to time-of-use pricing

The company offers EV-focused products which include intelligent charging tariffs.

Kraken receives authorization to operate as a licensed platform which enables the company to serve additional energy suppliers.

The company uses these new developments to enter new business areas which serve different customer groups through its current technological base.

The research shows their ability to understand how customer requirements change while they work within the complete energy system framework.

The design thinking approach shows these initiatives have effectively identified problems and understand user needs because they solve specific issues with energy expenses and environmental sustainability.

Transformational Innovation

Octopus Energy demonstrates better than typical incumbent companies their dedication to creating revolutionary new products and services. The development of Kraken into a digital platform which scales up has established new operational methods for energy suppliers who now use automated data-based systems instead of their previous manual customer service approaches.

The operational transformation of Kraken through its system does not extend to its customer interface which shows only minor advancements. The current situation indicates that transformational capabilities should be used to create a better end-to-end customer experience.

3.2 Current Customer Journey Mapping

To evaluate Octopus Energy's application of design thinking, a current state customer journey map has been developed for a core customer segment: digitally engaged UK households managing gas and electricity accounts online.

Stage 1: Awareness and Consideration

Customers typically become aware of Octopus Energy through:

- Price comparison websites
- Word-of-mouth recommendations
- Media coverage and brand reputation

Pain points:

- Difficulty comparing tariffs across providers

- General mistrust of energy suppliers

Gains:

- Clear messaging around fairness and transparency
- Strong brand differentiation

Stage 2: Onboarding and Switching

Onboarding is primarily digital, involving:

- Online sign-up
- Meter information submission
- Account setup

Pain points:

- Limited understanding of smart tariffs during sign-up
- Anxiety around switching delays

Gains:

- Simple language and reduced complexity
- Minimal paperwork

Stage 3: Usage and Account Management

Customers manage accounts via:

- Web portals and mobile apps
- Automated billing and meter readings

Pain points:

- Limited proactive insights into energy usage
- Reactive rather than predictive communication

Gains:

- Transparent bills
- Responsive digital support

Stage 4: Support and Issue Resolution

Customer support is largely digital-first, supported by automation.

Pain points:

- Reduced human interaction for complex issues

Gains:

- Fast resolution of routine queries
- Consistency of information

Stage 5: Retention and Advocacy

Retention is driven by:

- Fair pricing
- Brand trust
- Ethical positioning

Pain points:

- Limited emotional engagement beyond price and ethics

3.3 Identified Opportunities for Digital Innovation

Customer journey mapping highlights several opportunities:

- Greater personalisation of energy insights
- More proactive, predictive engagement
- Enhanced customer education around energy behaviours

While Octopus Energy excels at operational efficiency, the journey reveals gaps in experiential design where deeper application of design thinking could improve customer empowerment and long term loyalty.

3.4 Critical Evaluation of Octopus Energy's Innovation Balance

The Innovation Ambition Matrix shows Octopus Energy achieves high results in its core and adjacent and transformational innovation areas yet a thorough assessment shows

the company lacks proper balance between operational transformation and experiential innovation.

The organization dedicates most of its transformational work to build Kraken while focusing on scaling operations through automated systems which reduce costs. The customer-facing innovation sector continues to use incremental approaches which focus on simplifying tariffs and implementing digital self-service systems instead of creating new ways for customers to interact with their energy providers

. The company faces a risk that its competitive edge will fade from customer view because competitors will start using identical backend systems. The process of transformational innovation requires organizations to face elevated levels of risk together with increased levels of uncertainty.

Octopus Energy shows more willingness to adopt new technologies than conventional energy companies but it avoids creating revolutionary customer experiences which might challenge current regulatory frameworks and operational systems. The energy sector requires this cautious approach, but it could limit the company from developing distinct long-term strategies.

PART B: Proposed Digital Transformation Initiative for Octopus Energy

4. Proposed Digital Transformation Initiative

4.1 Rationale for the Proposed Initiative

The research conducted in Part 1 shows that Octopus Energy achieved success through its digital platform Kraken which enables operational excellence and customer focused operations with complete transparency. The customer journey mapping exercise shows that Octopus Energy devotes most of its innovation efforts to back-end development but fails to convert its advanced technology into active customer experience engagement.

The design thinking approach shows this project uses human-centred design principles but not to their full extent. The solution of customer billing transparency and service efficiency problems has not solved the fundamental customer requirements which include empowerment and understanding and behavioural transformation. The company has a chance to launch a digital transformation project which will transform Octopus Energy into an active energy partner instead of its current reactive service model.

Proposed Initiative: Octopus Energy Smart Insight Hub

This assessment proposes the development of the Octopus Energy Smart Insight Hub: an AI-enabled, customer facing digital platform integrated into the existing Octopus Energy app and web interface. The initiative is designed to provide customers with real time, personalised energy insights, predictive recommendations, and behavioural nudges to support cost savings, sustainability goals, and energy efficiency.

The initiative directly addresses the assignment requirement to:

- Identify new digital innovation opportunities
- Propose a credible digital transformation initiative
- Demonstrate clear application of design thinking principles

4.2 Design Thinking Approach Underpinning the Initiative

Design thinking is characterised by iterative, user centred problem-solving that prioritises empathy, experimentation, and holistic solution development. The Smart Insight Hub is grounded in the following design thinking stages:

Empathise

Insights from customer journey mapping highlight that customers often:

- Lack understanding of how and when they consume energy

- Feel disengaged once onboarding is complete
- Only interact with their energy supplier when problems arise

These insights indicate a gap between operational excellence and experiential value.

Define

The core problem can be defined as follows:

Digitally engaged energy customers lack proactive, personalised support to understand, manage, and optimise their energy usage in real time.

Ideate

Potential solutions include:

- Real-time energy visualisation
- Predictive cost alerts
- Behavioural nudges linked to sustainability goals

The Smart Insight Hub consolidates these ideas into a single, coherent digital experience.

Prototype and Test

The initiative is designed to be rolled out incrementally, allowing Octopus Energy to test features with specific customer segments before full deployment. This aligns with agile and lean innovation principles.

4.3 Enhanced Future-State Customer Journey Map

In line with the assignment brief, this section presents an updated and enhanced customer journey, demonstrating how the proposed digital initiative transforms the customer experience.

Stage 1: Awareness and Onboarding (Enhanced)

Current State Issue:

Customers understand pricing and fairness but lack clarity around how they will actively manage energy usage.

Future-State Experience:

- Introduction of the Smart Insight Hub during onboarding
- Interactive walkthrough explaining how customers can save money and reduce carbon impact
- Personalised baseline energy profile created using smart meter data

Value Created:

- Improved customer confidence
- Reduced anxiety around energy management

Stage 2: Energy Usage and Monitoring

Current State Issue:

Energy usage data is largely retrospective and descriptive.

Future-State Experience:

- Real-time dashboards showing usage by time, appliance category, and cost
- AI-generated insights such as:
 - “You used 18% more energy than similar households this week”
 - “Shifting laundry to off-peak hours could save £X per month”

Value Created:

- Increased customer empowerment
- Stronger emotional engagement with the brand

Stage 3: Proactive Support and Intervention

Current State Issue:

Customer support is efficient but reactive.

Future-State Experience:

- Predictive alerts when unusual usage patterns are detected
- Early warnings about potential bill increases

- Automated recommendations for tariff switching or usage adjustments

Value Created:

- Reduced bill shock
- Increased trust and perceived fairness

Stage 4: Sustainability and Behavioural Change

Current State Issue:

Sustainability is part of Octopus Energy's brand, but customer participation is passive.

Future-State Experience:

- Carbon footprint tracking integrated into the Smart Insight Hub
- Gamified sustainability goals and progress tracking
- Personalised recommendations for EV charging, smart tariffs, or renewable options

Value Created:

- Alignment with ethical consumer values
- Stronger customer-brand relationship

Stage 5: Retention and Advocacy

Current State Issue:

Retention is primarily driven by price and reputation.

Future-State Experience:

- Quarterly "energy impact summaries" showing financial and environmental benefits
- Shareable insights encouraging advocacy
- Feedback loops to refine AI recommendations

Value Created:

- Increased switching costs (psychological and experiential)
- Higher lifetime customer value

4.4 Assessment of Desirability, Viability, and Feasibility

In accordance with the assignment learning outcomes, the proposed initiative is critically evaluated using the design thinking triad.

4.4.1 Desirability

From a customer perspective, the Smart Insight Hub is highly desirable because it:

- Addresses real customer pain points identified in the journey map
- Simplifies complex energy data into actionable insights
- Supports cost-saving and sustainability objectives

The initiative aligns with contemporary expectations for digital services that are personalised, intuitive, and empowering. By focusing on customer understanding rather than mere efficiency, Octopus Energy strengthens its human-centred value proposition.

4.4.2 Viability

From a business perspective, the initiative is viable for several reasons:

- It leverages existing Kraken infrastructure and smart meter data
- It supports customer retention in a low margin, high churn industry
- It differentiates Octopus Energy beyond price competition

Improved engagement and retention reduce acquisition costs, while data-driven insights create opportunities for:

- Targeted product adoption (e.g. smart tariffs, EV services)
- Strategic partnerships within the energy ecosystem

As such, the initiative aligns with Octopus Energy's long-term strategic objectives and commercial constraints.

4.4.3 Feasibility

Technological feasibility is high due to:

- Established AI and analytics capabilities
- Existing digital channels and customer data
- Modular platform architecture

Organisational feasibility is supported by Octopus Energy's:

- Digital-first culture
- Agile development practices
- Experience with platform scaling

However, feasibility also depends on effective data governance, transparency, and ethical AI use. These challenges must be actively managed to maintain customer trust and regulatory compliance.

4.4.4 Risks, Constraints, and Ethical Considerations

The Smart Insight Hub proposal shows promise for implementation, yet it contains multiple risks and operational limitations which need thorough evaluation. The main obstacle involves protecting personal information while ensuring artificial intelligence operates according to ethical standards.

The initiative depends on precise customer energy usage information, so Octopus Energy needs to maintain complete openness about their data collection methods and analysis procedures and usage practices which follow GDPR and Ofgem regulations. Digital exclusion stands as a major limitation which affects the system.

The program focuses on customers who use digital technology, but it could prevent less tech-savvy families who need help from accessing its advantages. Octopus Energy needs to preserve its backup systems and design principles which support all users. The results of behavioural change programs will vary between different customer groups. The initiative faces two major challenges because some customers will not participate in activities or follow suggested actions which reduces the program's total effectiveness.

The process requires designers to perform repeated testing while making ongoing improvements which follows the design thinking methodology. The proposed initiative becomes more credible because researchers have identified its operational boundaries which show that innovation requires sacrificing certain advantages for better results.

4.5 Measuring Impact and Success

In line with the assessment brief, the impact and success of the Smart Insight Hub can be measured using a combination of quantitative and qualitative metrics.

Customer Experience Metrics

- Net Promoter Score (NPS)
- Customer Satisfaction (CSAT)
- App engagement frequency

Behavioural and Operational Metrics

- Reduction in energy consumption per household
- Adoption rates of smart tariffs
- Decrease in reactive customer service queries

Financial Metrics

- Customer retention rates
- Customer lifetime value
- Cost-to-serve reductions

These metrics provide a robust framework for evaluating both customer and organisational outcomes.

4.5.1 Linking Measurement to Strategic Objectives

The Smart Insight Hub will deliver its intended value through performance metrics which need to connect directly to Octopus Energy's business targets instead of functioning as standalone metrics. The analysis of Net Promoter Score improvements together with app engagement data requires retention metrics to determine if better customer experience leads to sustained customer loyalty.

The assessment of decreased energy usage needs to consider both environmental benefits and how it affects customer happiness and their confidence in the company. The initiative will strengthen Octopus Energy's ethical brand image when customers understand that energy-saving recommendations serve their needs instead of generating profits for the organization.

Octopus Energy can create a balanced evaluation system which shows the complete digital transformation process through uniting customer data with operational information and financial performance metrics. The method enables students to evaluate proposed solutions through critical assessment of their desirability and their viability and operational feasibility.

4.6 Critical Reflection on Design Thinking as a Problem-Solving Approach

The assessment demonstrates how design thinking works as a problem-solving method which shows its effective and ineffective aspects when used in complex energy sector operations under regulatory frameworks. Design thinking provides its greatest value when organizations need to solve problems which lack clear definition and require human involvement and constant change in the UK energy market customer engagement context. Design thinking operates differently from analytical and systems-based methods because it makes organizations focus on user needs while they develop solutions through continuous testing and user feedback.

The design thinking approach at Octopus Energy delivers its best results through the process of making customer interactions more straightforward while eliminating all obstacles which exist in billing and switching and customer support operations. The organization has achieved high customer satisfaction and trust levels because of these efforts which set it apart from traditional market competitors. The assessment shows that design thinking has not achieved its complete potential to enable customer empowerment through more than basic transactional processes. The company shows excellent operational innovation, but it needs to improve its ability to understand customers and their interaction with their energy consumption.

The Smart Insight Hub solution addresses this deficiency through design thinking which transforms energy usage into a collaborative challenge between businesses and their customers instead of treating it as a standard service delivery. The initiative achieves a complete customer experience through its combination of empathetic approaches with behavioural understanding and its digital design process which follows an iterative method. The design approach demonstrates advanced maturity because technology serves to enable significant behavioural transformations instead of performing basic process automation.

Design thinking serves as a solution which works for all situations, but it does not function as a complete answer for every problem. The innovation process in highly regulated industries faces multiple barriers because organizations must follow

compliance rules and maintain data security and achieve equal treatment for all stakeholders. The use of experimental methods and personalized approaches creates ethical problems because it involves customer information. Design thinking requires organizations to maintain a proper equilibrium between their analytical assessment methods and their understanding of regulations and their ability to follow organizational procedures.

The research demonstrates that design thinking needs to work together with other thinking approaches because it functions best when combined with other methods. The most successful innovation results at Octopus Energy emerge when design thinking operates together with systems thinking and data analytics and strategic planning methods. The Smart Insight Hub demonstrates this integration through its design which combines human centered approaches with technological and commercial elements.

The assessment shows design thinking works best when professionals use it with careful consideration and proper selection of projects while understanding their organizational environment and available resources. The method allows organizations including Octopus Energy to detect customer requirements which have not been fulfilled while they create digital solutions which they can assess through desirability and viability and feasibility evaluation. The organization achieves sustainable business performance through this method which unites customer experience enhancement with organizational success.

Conclusion

The research evaluates Octopus Energy's design thinking and innovation methods which they use to transform the UK energy industry.

The Innovation Ambition Matrix and Customer Journey Mapping analysis shows that Octopus Energy achieves high levels of operational and technological innovation but needs to improve its customer experience delivery.

The proposed Octopus Energy Smart Insight Hub presents a valid digital transformation plan which solves customer problems and follows design thinking guidelines.

The initiative enhances desirability while confirming commercial viability and preserving technological feasibility to make Octopus Energy more competitive while providing substantial benefits to customers.

The assessment shows how design thinking methods enable organizations to create human centred digital experiences which improve efficiency in both efficient and regulated business environments.

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