

Report 2418999 O D S

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Workplace Wellbeing Infographic Report

ACCB4002 Data Analysis & Visualisation

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1. Introduction

Data visualisation has become critical in communicating complex information effectively across professional contexts. This assignment forms part of the ACCB4002 Data Analysis & Visualisation module, with Task 1 evaluating the "Workplace Wellbeing Infographic" from the Global Wellness Institute.

This report evaluates how effectively the infographic presents complex information to its target audience. The evaluation employs established visualisation design principles to analyse key elements including colour usage, typography, graphs, graphics, cognitive load, and overall design coherence. The analytical framework draws upon data visualisation theory alongside contemporary research in infographic design and cognitive load theory.

The purpose is to identify the infographic's strengths and weaknesses and propose evidence based improvements. This report examines the message and target audience, analyses visual design elements, discusses cognitive demands, and recommends specific improvements supported by academic research.

2. Message & Audience Analysis

Core Message and Structure

The infographic presents workplace wellness evolution across three interconnected dimensions, combining historical context, practical frameworks, and measurable business outcomes. Research emphasises that effective infographics must balance educational content with persuasive elements[1].

Target Audience and Business Case

The primary audience comprises HR professionals, business leaders, and C, suite executives who control wellness programme budgets. The statistics section "The Future Looks Bright" presents eight metrics: 10% higher customer satisfaction, 37% lower absenteeism, 22% higher profitability, 147% higher earnings per share (Gallup research), 41% fewer quality incidents, 25, 65% lower turnover, 21% higher productivity, and 48% fewer safety incidents. These figures speak directly to financial stakeholders. The infographic's effectiveness depends on whether this combination successfully persuades audiences to allocate resources toward workplace wellness initiatives.

The Building Blocks Framework

The central artwork presents a hierarchical structure with "Culture of Care: The Foundation" at the base, followed by:

- Level 1 includes Financial Well, being (living wage, budgeting, retirement savings) and Connection (purpose and social bonds).
- Level 2 addresses Mindfulness, Sleep and Stress Management (no tech time, sleep pods, work/life balance).
- Level 3 encompasses Healthy Foods, Physical Activity, and Engaging Built Environment (natural light, plants, water features).
- Level 4 represents Goals (corporate financial strength backed by data analysis, employees connected to personal goals).

How We Got Here Timeline

The timeline "How We Got Here" traces wellness from "Ancient Wellness Practices" through slavery abolition (1830s, 60s), Pullman initiatives (1884), WWII workforce changes, to "Present Day" and "The Future," legitimising current wellness movements through historical context.

3. Visual Design Evaluation

Colour Usage and Accessibility

The infographic employs orange/coral and teal/turquoise hues creating distinct visual zones. Colour theory suggests warm colours like orange suit health, related content, whilst teal and grey provides cool contrasting backgrounds.

However, accessibility concerns emerge, the timeline presents small text on coloured backgrounds, raising contrast ratio questions. WCAG recommends minimum ratios of 4.5:1 for normal text to ensure readability for users with visual impairments [2]. The 1884 Pullman entry displays small black text on coral background, difficult to read at arm's length, particularly for users with reduced vision.

Typography and Readability

Section headers successfully establish visual hierarchy[3]. "Wellness At Work" and section titles like "How We Got Here" use large, bold typography creating effective landmarks for the viewers eyes.

However, the timeline suffers from excessive text density with very small fonts attempting to accommodate substantial information within limited space. Typography best practices suggest bullet points [4] should replace dense paragraphs and font sizes can then increase because of this.

The 1911 Wanamaker's entry contains 45 words in paragraph form:

"Early Adopters: Wanamaker's Employees were to be treated respectfully by management (including not being scolded in public), and John Wanamaker & Company offered its employees access to the John Wanamaker Commercial Institute, as well as free medical care, recreational facilities, profit sharing plans, and pensions."

This dense text forces sustained reading rather than quick scanning, a critical failure for infographics.

Data Visualisation and Graphs

The statistics section presents eight separate figures in magenta text using coloured boxes rather than graphical representations. Research on graphical perception demonstrates humans process visual encodings more effectively [5] than numerical text, particularly when comparing magnitudes. The text only presentation requires viewers to mentally process and compare eight values without visual support, cognitively demanding task that a bar chart would accomplish instantly.

The presentation of statistics lacks consistency and easy to digest context, most metrics present single percentages ("22% higher profitability"), but one states "25-65%

lower employee turnover", a 40% point range without clarification. The infographic fails to show what these percentages represent improvements over. Whilst presumably comparing organisations with versus without wellness programmes, this remains implicit, leaving viewers to make assumptions.

Graphics and Overall Design

The layout divides into three sections;

- "The Future Looks Bright" Statistics
- "Building Blocks" Diagram
- "How We Got Here" Timeline

This creates spatial separation without clear visual connections. Viewers could reasonably start with any section, potentially reading outcomes before understanding context or framework. The design presents these three zones without distinct indicators of relationships or intended sequence.

The timeline's curved connecting line adds visual interest but minimal informational value. The timeline packs twelve entries with minimal padding, creating visual density. White space usage appears insufficient throughout, creating crowding that may contribute to cognitive overload. Gestalt principles suggest appropriate white space aids perceptual grouping and reduces cognitive load[6]. The infographic has minimal use of icons throughout, this could be used to enhance rapid recognition and reduce text reliance.

Cognitive Load and Mental Demands

The three-section structure imposes significant memory demands, cognitive load theory distinguishes between intrinsic load (content complexity), extraneous load (poor design), and germane load (productive effort) [7]. Working memory handles approximately 7 ± 2 information chunks [8], yet this infographic has a lot more than this.

The timeline contains 12 distinct periods, the "Building Blocks" present 20+ elements across the foundation and the four levels, also statistics add 8 further metrics, totalling 40+ chunks exceeding working memory capacity.

Perceptual demands create challenges for the viewer, small text necessitates close viewing whilst large headers remain visible from farther away, forcing viewers to physically adjust position.

Multiple information hierarchies compete with each other, chronological in timeline, hierarchical in building blocks, comparative in statistics, without clear signalling about viewing patterns. After reading "Wellness at Work", viewers receive no visual guidance about whether to proceed left, down, or right. c

4. Proposed Improvements

Simplify Timeline Section for Enhanced Readability

The timeline suffers from excessive information density creating readability challenges and cognitive overload. Typography research demonstrates appropriate sizing and spacing enhance readability and reduce fatigue [8].

For example, 1911 Wanamaker's entry could be simplified to;

1911 - Wanamaker's

- Respectful management practices
- Free medical care and recreational facilities
- Profit sharing and pensions.

This condensed version conveys essential information in 15 words as opposed to 47, with bullet points enabling rapid scanning. Font sizes should increase by 2-3 points for arm's length legibility, and less critical entries should be removed to reduce density. This addresses extraneous cognitive load whilst improving scanning efficiency.

Visualise Statistics Through Graphical Representations

Coloured text boxes should be replaced with horizontal bar charts visually showing relative information, enabling quick comparison without numerical processing. Research demonstrates position along common scales represents the most accurately perceived visual encoding [10]. Perhaps icon displays showing 100 human figures with highlighted percentages could enhance engagement and memorability.

Instead of text stating "37% lower absenteeism" a bar chart could show organisations without wellness programmes graphically compared to those that do. This visualisation approach improves information-to-ink ratio whilst increasing visual impact and allowing for rapid pattern recognition.

Create Clear Visual Hierarchy and Flow

Add distinct visual connectors and directional indicators to guide viewers through intended reading sequence, increasing sizing should guide eye movement from foundational ideas to supporting information [10].

Arrows, connecting lines, or numbered indicators should link the three sections, demonstrating that historical developments led to framework creation, which produces business outcomes.

5. Conclusion

This report demonstrates a design that presents important workplace wellness content but suffers from visualisation weaknesses that worsen communication effectiveness. The primary issues identified include excessive information density creating cognitive overload, typography and readability challenges particularly in the timeline section, missed opportunities for data visualization that would make business outcome statistics clearer, colour contrast and accessibility concerns, and unclear visual hierarchy failing to guide viewer navigation.

The three proposed improvements, simplifying the timeline section, visualizing statistics through appropriate charts, creating clear visual hierarchy and flow and reducing overall information density.. Implementing these recommendations would significantly enhance the infographic's clarity and persuasive power while better serving business decision-makers considering workplace wellness investments.

This report demonstrates the importance of applying established data visualization principles and cognitive psychology research to practical design challenges. Well-designed infographics must balance comprehensive information presentation with visual clarity and cognitive accessibility, recognizing that effective communication often requires strategic simplification.

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FINAL GRADE

GENERAL COMMENTS

90/100

	M a r k s a v a i l a b l e	M a r k s a v a r d e d
Generic Assessment Criteria		
1. Engagement with Literature Skills		
Good referencing, both in amount and quality / credibility of sources. Referenced well throughout the text and to IEEE standards.	1 0	1 0
2. Knowledge and Understanding Skills		

Good consideration of both good and bad points to the infographic, taking into consideration cognition. Reasonably detailed discussion with good flow and justification creating a reasonable narrative.	1 5	1 4
3. Cognitive and Intellectual Skills		
Some good recommendations for improvements based on points raised. Whilst the narrative is good, maybe a little more detail to the improvements would have been beneficial.	1 5	1 4
4. Practical Application Skills		
A well designed infographic, with clarity in its simplicity. The white background tends to work however would there have been more attraction and interest with some colour and less white space? Good use of heading, logo and NHS colouring. Good innovative use of graphics and visualisations. Could the text box been a little more terse	5 0	4 3

and the main message still be given? Clear messages seen answering the questions posed.		
5. Transferable Skills for Life and Professional Practice		
A well presented and sectioned document with all the expected elements.	10	9

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