

Factors Influencing Business IT Alignment

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Abstract

Business IT alignment has consistently been ranked at the top of the most important topics from the perspective of business executives. Over the years, many models and IT management frameworks have been proposed to address this issue. This study aimed to develop a comprehensive understanding of business IT alignment phenomena based on the live experiences of IT leaders working in FMCG companies based in the UK. A descriptive phenomenological method was employed to achieve the study's goal. The live experiences of eleven participants from FMCG companies were used as the primary data source. Phenomenological analysis of the interview data revealed twenty-two sub-themes grouped into four main themes. Four main themes identified during the study are: leading topics, IT trends, IT management frameworks influencing business-IT alignment, and future improvement. The leading topics theme gathers the most important topics discussed between senior IT and business leaders. The IT trend's theme points to all technological trends that draw the attention of companies. In particular, three categories were discovered: technologies to automate and optimize digital technologies, and disruptive technologies. The IT management framework theme tackles all frameworks contributing to business IT alignment. The logical chain of sequence could be observed due to the speed of changes and customers moving to online channels (leading topics) and because digital technologies are spreading (IT trends) supported by organizational changes (IT management frameworks). The last theme aggregates recommendations for improvement in business IT alignment based on participants' suggestions.

Keywords: *Business IT alignment, IT trends, IT management frameworks, IT leading topics*

1. Introduction

Over the years, the role of Information Technology (IT) departments has evolved significantly from being reactive and focused on technical aspects only through office and process automation [1], to proactive business value and innovation creation [2]. In a majority of businesses, dependency on IT to provide ongoing support, enable efficiency, and contribute to business value is as important as matters of finance or general corporate governance [3]. With these changes positioning IT within the business, the need for IT governance and business IT alignment is growing. The IT Governance Institute [4] outlines that "IT Governance spans the culture, organization, policy, and practices that provide for IT

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Management and control across five areas." Those five areas are business IT alignment, value delivery, risk management, resource management, and performance measurement. Value delivery is focused on driving maximum business value from IT to the business with the inclusion of ROI assessment. Risk management entails ensuring that processes are in place and allowing adequate measurement of risks, with the inclusion of risk assessment of IT investments. Resource management provides a high-level approach regarding sourcing and using IT resources and ensures that IT capability and infrastructure effectively support current and future business requirements. Performance measurement verifies strategic compliance and delivery of strategic IT objectives and evaluates IT contributions to the business. Finally, business-IT alignment focuses on the strategic direction and alignment of IT and the business concerning services and projects. The IT Governance Institute emphasizes the benefits of "good IT Governance," which are built around five areas: 1) transparency and accountability, 2) return on investment/stakeholder value, 3) opportunities and partnerships, 4) performance improvement, and 5) external compliance. The benefits of transparency and accountability arise from improved transparency of IT costs, IT processes, and IT portfolios (for projects and services), precise decision-making accountabilities, and the definition of user and provider relationships. Return on investment/stakeholder value relates to improved understanding of overall IT costs and ROI cases, improved contribution to stakeholder returns, and enhanced and protected the company's reputation and image. Opportunities and partnerships enable IT participation in business strategy, improve responsiveness to market challenges, and facilitate more businesslike relationships with key IT partners. Performance improvement benefits are realized by increased transparency, continuous rising of the bar for performance, execution of best practices, and elimination of unnecessary expenditures.

This last area of external compliance allows a business to meet external legal and regulatory requirements. Many researchers have confirmed those benefits; Colman, Reynolds, Sharma, Tallon, and Queiroz [5] confirmed the positive impact of Multi-Business Organizations (MBO) business IT alignment on Single Business Unit (SBU) performance. Becker, Gaustad Macada, Lunardi, and Van Grembergen [6] examined antecedents of IT governance effectiveness in Brazilian firms and found that 1) the level of IT strategic alignment had the strongest effect on the effectiveness of IT governance, suggesting that the more aligned the IT and corporate strategies, the more effective the use of IT by the organization; 2) the strategic alignment of IT is a central element in obtaining higher levels of IT effectiveness that could support organizations in achieving better business performance; and 3) regarding the adoption of IT governance mechanisms and their associations with IT strategic alignment, the results indicate that structure, process, and relational mechanisms have significant and positive effects on perceived IT alignment.

2. Theoretical foundations and literature review

The theoretical foundations of business IT alignment considered in this research are related to corporate governance, IT governance, and IT governance. Corporate governance theories connected are agency theory [7], stewardship theory [8], resource dependency theory [9], resource-based view theory [10], stakeholder theory by Freeman [11], and transaction cost theory [12][13] Governance of IT as stated by Juiz and Toomey [14] reflects the business usage of IT by non-IT executives. In this context, ISO/IEC 38500 defines governance of IT as a system by which current and future use of IT is directed and controlled [15][16]. IT governance reflects the usage of IT-by-IT executives. The main IT governance framework

presented below is COBIT 2019 [17], together with other frameworks like the King III report [18], Val IT [19], and Calder-Moir meta-model [20].

The literature analysis was conducted within the business-IT alignment and IT strategy. Different approaches to IT strategy (archetypes (Isaca, 2018)) were reviewed. Business IT alignment modeling approaches were examined based on Enterprise Architecture (EA) and SAM concept [21]. The EA model-based approach allows for assessing the quality of relationships based on documented models (e.g., EA frameworks). It focuses on business, data, application, and technology architecture. SAM-based models are built on domains of business strategy, IT strategy, business infrastructure, and IT infrastructure. The concept of aligning IT and business was formally shaped and initiated by the SAM model [22], which later evolved and was extended many times [23][24]. One of the latest extensions of the SAM model [25] adjusts the model to current, more dynamic circumstances. The same dynamism was addressed in bimodal IT [26], where alignment between dynamic and less dynamic parts of IT is shared. The measurement methods of business IT alignment take two approaches: model-based (where measurement is based on documented models linking business and IT domains) and perception-based. In the perception-based approach, evaluation is made from the authors' perception, and measurements are usually taken via surveys and interviews. Other concepts extended business-IT alignment to a direction [27] and alignment pace [28]. Finally, a set of ISO/IEC standards related to IT management is presented, as well as the most commonly used IT management frameworks like ITIL v4 [29] and project management frameworks - PMBOK® [30] and PRINCE2® [31].

3. Methodology

This study aimed to understand the current IT governance and business IT alignment influencing factors in global Fast-Moving Consumer Goods (FMCG) companies based in the UK. More specifically, it is important to understand which influencing factors and practices are employed, considering current business dynamics and IT trends. IT trend changes are noticeable in many areas, such as IT devices, IT methodologies/frameworks, IT software, third-party IT services, business strategies, and business/users' expectations. On top of this, customer and consumer demands have also changed, and companies willing to address those demands must adopt new ways of working. This study relies on personal interviews with IT managers. This research will explore how IT leaders realize business-IT alignment in practice, which IT governance practices are used, and which IT trends and leading topics influence business-IT alignment. Eleven participants with a minimum of 10 years of experience in FMCG/CPG global companies were selected for the study.

For this research, the author planned to conduct eleven interviews. As the number sample is small, this approach will require more intense questioning [32]. Creswell [33] recommends three strategies for sampling: 1) purposeful, where participants are purposefully informed about the given phenomenon; 2) criterion-based, where participants experience the phenomenon due to fulfilling certain criteria; 3) snowballing, where participants can refer to participants meeting specific criteria. Snowball sampling is also recommended by Rahi [34]. In this study, the author will apply those strategies. The researcher identified key characteristics required from participants in this study. Those characteristics are: 1) the participant is working in a company that has a presence in the UK market, 2) the participant is employed by a global FMCG company (global in this context means that the company operates in least three regions), 3) the participant occupies at least one manager position, and

4) the participant is involved in the business IT alignment process. Access to the participants was initiated via the LinkedIn portal (social network for professionals), email, or phone.

Table 1. Selected Characteristics of Participants

	Participant's code	Position level in the company	Management Experience [years]	Global company turnover [mld USD]	Nr of employees globally
1	Male 1	Director	20	19	138000
2	Male 2	Director	23	4	6000
3	Male 3	Director	20	30	100000
4	Male 4	Director	30	44	110000
5	Male 5	CIO/VP/Senior Director	14	25	45000
6	Male 6	CIO/VP/Senior Director	23	37	13000
7	Male 7	CIO/VP/Senior Director	25	11	55000
8	Male 8	CIO/VP/Senior Director	24	4	6000
9	Male 9	Manager	15	35	82000
10	Male 10	CIO/VP/Senior Director	25	40	40000
11	Female 1	CIO/VP/Senior Director	12	4	6000

4. Results and discussion

The qualitative research results from the analysis of the interviews are summarized in Table 2.

Table 2. Identified themes and sub-themes

Theme/research question	Sub-theme
Leading topics	Business environment changes
IT Trends	Remote work, flexible work, and remote collaboration
	Speed
	Automation and optimization
	Digital transformation
	Cybersecurity
	Data & Analytics
	Blockchain
	Cloud, Platforms, and E-commerce
	Cybersecurity
	Agile & Waterfall
	ITIL
	Other frameworks
	Coaching and education
	Early involvement
	Remote collaboration experiences
	Link fragmented budgets
Management frameworks	Re-think shadow IT and Platforms governance approach
Future Improvements	Worthwhile conversations
	Dedicated technology boards
	Time to think
	Benchmarking
	Disruptive innovation

4.1. Leading topics

The first theme evidenced all the participants' experiences related to leading topics in business IT alignment. As identified by the participants, leading topics came from interactions with business leaders. As a result of the analysis, there were four identified emerging sub-themes: 1) business environment changes, 2) remote work, flexible work, and remote collaboration, 2) digital transformation, 3) speed, and 4) automation and optimization. Business environment changes were reported by participants in the context of the impact of COVID-19, as well as shifts in customer behaviors. Shifts in customer behaviors were different and specific to each company, e.g., some changes were related to higher urbanization of cities and carpooling (impacting product logistics), and others pointed out that consumption moved from bars and restaurants to homes (cocktails at home). Remote work, flexible work, and remote collaboration have become number one on the agenda of all companies in the study. Remote work is linked with the ability to work remotely, mostly from home. Flexible work refers to the ability to work within a flexible time frame (so not as it used to be eight hours in a row, but taking into account some breaks for home-related duties). Remote collaboration was pointed out as the ability to collaborate remotely and, therefore, use more sophisticated IT tools allowing this. Digital transformation was noted as one of the leading topics on the business leader's agenda. The research was linked to new ways of working and generating revenue streams. Participants pointed out speed as the leading topic around acceleration and rapidness in many areas, like such actions of rapid delivery of IT services and products. Automation and optimization are other leading topics that business leaders have pointed out where discussion between business and IT alignment should continue. In particular, participants reflected the need to invest more in RPA (Robotic Process Automation), thus defending against increasing business costs. Data and analytics were marked as a source of knowledge and direction in the same context.

4.2. IT trends

The second IT trend's theme includes the following IT trends: 1) Cybersecurity, 2) Data & Analytics, 3) RPA, 4) blockchain, 5) IoT, 6) Cloud, 7) E-commerce, 8) AI (Artificial Intelligence), and 9) ML (Machine Learning). Some participants stated that as a part of Data & Analytics, they see artificial intelligence and machine-learning technology. Still, others indicated the application of AI and ML in other areas. This part is a connection between cybersecurity and technologies delivering automation. Due to the specificity of FMCG companies, there is a relentless focus on automation and optimization technologies.

4.3. IT Management frameworks

The third theme is management frameworks contributing to business IT alignment. The identified frameworks were around: 1) cybersecurity, 2) Agile & Waterfall, 3) ITIL, and 4) other frameworks. Participants pointed to cybersecurity frameworks as helping build trust in the business. Frameworks related to agile & waterfall were viewed as delivery and business alignment methodologies. ITIL framework contributed to providing reliable and repeatable high-quality IT services. Participants pointed to DevOps and COBIT in other frameworks, although it was not a unanimous pattern. A recent study [35] shows that DevOps requires intra-IT alignment within three grounds in order to fully serve its purpose. DevOps and its continuous improvement process can be successfully applied to the IT service management field [36]. Previous studies in the banking sector indicate that successful COBIT practices

integrate within IT governance and require high CEO-CIO motivation and regular IT audits to evaluate progress [37]. Another study of about 40 private organizations from the Middle East region [38] statistically proved that all sub-dimensions of COBIT as a coherent IT governance framework play essential roles in business IT alignment, with "IT risk management" being a leading indicator of business interest.

4.4. Improvement suggestions

The fourth theme was improvement suggestions in the context of even better business-IT alignment. Ten improvements were identified: 1) coaching and education, 2) early involvement, 3) remote collaboration experiences, 4) link fragmented budgets, 5) re-think shadow IT and platforms governance approach, 6) worthwhile conversations, 7) dedicated technology boards, 8) time to think, 9) benchmarking, and 10) disruptive innovation. Coaching and education - Participants stated that permanent coaching and education of business leaders is needed to build trust in IT as a strategic partner. Examples provided by participants were social media, RPA (Robotic Process Automation), blockchain, data analysis, and other latest technologies. Some participants referred to educational sessions organized with selected technology partners that could last three days. Coaching and education are increasing businesses' understanding of IT. This observation is consistent with results from the research on Ethiopia's bank [39], where a lack of business/IT understanding was identified as a barrier to business IT alignment. On top of this, cross-training and shared understanding of business/IT objectives are part of business IT alignment relational mechanisms [40]. Early involvement was another proposal for the improvement of business IT alignment. IT was involved early in executive boards and forums related to business initiatives in this context. This recommendation for improvement of business IT alignment was already examined and proven by Bart, Liu, and Turel [41], who confirmed that board-level IT governance is positively associated with strategic alignment and organizational performance. Similar results came from Liang, Straub, and Wu [42], whose study concluded that board-level IT governance can be critical in strategic alignment. Participants indicated that remote work, flexible work, and remote collaboration experiences are becoming more important in business IT alignment. Participants pointed out that from one perspective, this could lead to difficulties in conveying and reading emotion [43], while from others, it could move business IT alignment experiences to another virtual level that was never experienced before to such an extent. Those experiences are linked to video streaming solutions that provide communication synchronicity and relatively rich content [44]. The study participants also expressed the need to link fragmented budgets to the commercial initiatives deployed with Agile methodologies. Those initiatives are not supported by traditional budgeting per department but have dedicated money, including other initiatives like sales and marketing. Consequently, IT project costs are seen as a small portion of a bigger initiative. This problem is consistent with the study related to Agile budgeting [45] with a proposed model to apply multi-level budgeting where the budget could be moved between different levels. The budget allocation problem in the context of Agile projects was also stressed in previous studies [46], where conventional management approaches and their control were incompatible with Agile working methods. Participants suggested that with the growth of the cloud, online software renting, and different platforms, so-called "shadow IT" is becoming an area where IT-related spending is not controlled by IT departments nor fully managed by businesses. The ease of buying or renting software from the cloud could cause financial inefficiencies that could affect the company's funds. This problem was already the subject of a recent study [47].

Kopper, Strahr, and Westner defined the framework as Shadow IT, Business Managed IT, and IT Managed Systems. This framework was later enriched [48] with possible transition instances of Shadow IT. Participants also expressed the need for worthwhile conversations with business leaders, which, if established properly, would lead to benefits for both parties. With the increased business dynamic and remote collaboration experiences, worthwhile, well-thought-out, and prepared conversations seem to be helping with even faster business-IT alignment. Another recommended improvement is a mechanism of dedicated technology boards that consist of senior leaders focused on maximizing the use of given technology in the company. Higgs, Pinsker, Smith, and Young [49] recommended establishing a board-level security committee to be supported by an appropriate security framework. Dedicated technology boards (or overlapping committees) are part of transformational governance mechanisms working effectively, especially within bi-modal IT organizations [50]. The dedicated technology boards are enabling even better business-IT alignment. Participants stated that employees should have time to think in the Agile and dynamic world. Time to think should be part of the company's culture. A company's culture could be a factor in differentiating alignment maturity, as stated by Li and Palvia [51]. Ge, Jia, and Want [52] reviewed dimensions of business IT alignment and found that within four dimensions (strategic, social, structural, and cultural), cultural dimensions play an important role too. Recent psychological studies show that when people with knowledge have enough time to think (company culture), their knowledge can become economic value [53]. Participants stated that employees should have time to think in the Agile and dynamic world. Time to think should be part of the company's culture. A company's culture could be a factor in differentiating alignment maturity, as stated by Li and Palvia [51]. Ge, Jia, and Want [52] reviewed dimensions of business IT alignment and found that within four dimensions (strategic, social, structural, and cultural), cultural dimensions play an important role too. Recent psychological studies show that when people with knowledge have enough time to think (company culture), their knowledge can become economic value [53]. Participants suggested that benchmarking could help them in two dimensions. The first dimension would help assess IT performance in a given area and identify opportunities for improvement. This could help to shape strategy and form ambitious IT-related goals. Benchmarking is an effective tool for improving organizational performance [54]. The second dimension is building trust, especially with CEOs, board members, and senior leaders. Participants stated that within FMCG companies, every 4 years, third-party consulting companies approach CEOs and boards and encourage business transformation and further automation and optimization. Regular benchmarking of IT services helps to build trust and thus overtake the external consultants. External benchmarking as a value analytics dimension is a part of the SAM model [55]. Participants pointed out that disruptive innovation based on selected technology could also improve business-IT alignment. Technology selection is directly linked to the specificity of the business and cannot be copied and pasted to other businesses. Digitally enabled innovation helps to create new offerings much faster with a bigger scale and scope [56]. Digital innovation is not the same as disruptive innovation. Disruptive innovation is defined by Baiyere and Hukal [57], and Airbnb or Netflix are examples of such disruptive innovation, which fundamentally reconfigures industry structures and is digital and innovative. Companies shifting toward disruptive innovation require new skills [58]. The ability to respond to disruptions requires an understanding of overall business strategy with a special focus on digital transformation [59][60][61].

5. Conclusions

The observations from this study allow practical recommendations. Each recommendation was shaped by analyzing this research's primary data, past theories, and previous studies. Additionally, the knowledge and experience of the researcher influenced the final formulation of the conclusions and practical recommendations. Practical recommendations are presented below for IT and business leaders and organizations that create IT management frameworks. This part also includes the researcher's reflection on limitations. This section provides practical recommendations for IT leaders: 1) codify and regularly improve remote work, flexible work, and remote collaboration; 2) regular IT trends reviews; 3) regular coaching and education of senior leaders; 4) technology boards – cybersecurity, and more. Some of the practical recommendations reflect and are linked with leading topics identified in this research (e.g., codification of remote work). At the same time, others have not yet been fully implemented in practice (e.g., technology boards). The value and contribution to the business of the above recommendations were also confirmed by at least one participant in this study.

(1) Codify and regularly improve remote work, flexible work, and remote collaboration

The first consideration is that IT managers and respective business partners should (re)define the best practices for remote work, flexible work, and remote collaboration. Those best practices should be codified, regularly reviewed, and improved. It should allow employees to reach optimal remote collaboration experiences. The optimal experience level needs to be set by the company (it should include topics like software, recommended devices like cameras and headsets, surroundings, etc.) and should consist of training. From the business IT alignment perspective, IT managers and respective business partners should codify new ways of working (remote work versus office work) and collaborating. As a result, the optimal platform for communication (remote versus office) should be aligned and regularly improved.

(2) Regular IT Trend Reviews

Another consideration is related to regular reviews of IT trends from two dimensions: 1) future IT trends allowing companies to automate and optimize, and 2) potential disruptive technologies. Future IT trends to automate and optimize should be built based on input from IT employees (bottom-up – this should also increase IT employee engagement) [62][63]. Based on this, IT leaders should prepare recommendations for improvement and make it a part of discussion with business partners. Potential disruptive trends should be regularly tracked and assessed from the perspective of maturity and business usability. Those trends should also be a part of discussion with senior business partners to increase awareness and allow them to align on future opportunities.

(3) Regular Coaching and Education of Senior Leaders

IT leaders should ignite regular coaching and education sessions for senior business leaders related to cybersecurity, identified IT trends, and potential disruptive technologies. This would benefit senior leaders in the form of high, practical awareness related to cybersecurity threats and methods to defend against them. IT trends in the context of automation and optimization should allow business leaders to review their ways of working and make the company more profitable. Potential disruptive technologies review together with business leaders should raise awareness and keep track of future potential opportunities.

(4) Technology Boards – Cybersecurity and More

It is recommended that IT leaders should create a new formal IT governance mechanism: technology boards. Technology boards should focus on regular reviews of currently used technologies with an eye toward current issues and opportunities. Based on current research,

this study showed that technology boards are practiced in some companies. Consideration is to extend it and embrace more technologies with a particular focus on cybersecurity. Cybersecurity, as confirmed by the study, is at the center of attention, and a formalized method of regular reviews should help to keep the focus of IT and business partners. Other technologies to be considered as candidates for potential regular reviews are digital technologies (as it is already happening in one of the researched companies) and Bitcoin (which is also the case based on the current study) [64][65]. Other technologies with transforming or disruptive natures should also be part of a technology board's review. As a result of this research, for FM and CG companies in the UK, cybersecurity stays on top regarding importance and visibility for business leaders.

(5) Recommendations for further research

Findings from the study encourage further research. The identified three categories of technologies influencing business IT alignment in FMCG companies: 1) technologies that help to automate and optimize businesses, 2) digital technologies that help transform the business, 3) disruptive technologies (which help to create new digital sources of revenue and significantly change the way business operates) would be fascinating subjects to extend and validate across different industries. Traditional IT governance frameworks are strong regarding technologies that help automate and optimize business processes. This research discovery may lead to the creation of new IT governance frameworks that will embrace digital transformation and disruptive technologies. Another recommendation is to explore if there are any significant differences between genders. Unfortunately, this was not possible during this study due to the female-to-male ratio. A third research recommendation would be to conduct the research after a period, allowing companies to fully digest and absorb the uniqueness of the post-lockdown situation (caused by COVID-19) related to remote work, flexible work, and remote collaboration.

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