



Technical report - Digital strategy and artificial intelligence in marketing

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ABSTRACT

This report identifies two processes that exist in all businesses: marketing themselves and selling their products and/or services. Both of which can use Industry 4.0 technologies: digitalisation of the tasks and artificial intelligence. The focus on these processes are justified by a search for efficiency. Each of the process will be described and their inner tasks will be analysed to explain how Industry 4.0 technologies can be applied to them. This will be followed by a research on the pitfalls to avoid creating a dehumanised approach to working and dealing with customers. This report will show that the first intention of digitalisation and artificial intelligence for a greater efficiency may actually be reduced when monitoring is essential to guarantee ethical practices.

INTRODUCTION

The purpose of this report is to present the possibilities digitalisation can offer not for the processes where the value is created, but for processes that support a company's operations: the "behind the scene" tasks in sales and marketing. The reason why these two processes were chosen are the consequences of circumstances. Leaving a manufacturing company of end consumers home products to a non profit social enterprise who offers artistic performances for the well-being of a community. What seems like a contrasting mission with very little in common, they both need to sell their offering. And to achieve that they both have to develop a marketing strategy and a method to process their sales. This report will be based on the practices undertaken at the manufacturing company Melin Tregwynt with a view to inform Small World Theatre of the findings. This report will present how digitisation of sales processing contributed to a more efficient way of working and how important the connections between each steps proved to be and finally what a digital strategy can bring. This will lead to the second process to be scrutinised where marketing as a well established digitalised process is to be developed as a process to adopt artificial intelligence as a system that interprets data and learns from it to achieve a given task (Kaplan & Haenlein, 2010).

AIMS & OBJECTIVES

The objectives of this report is to define how digitalisation can allow companies to increase their day to day operations regardless of their sector of activities. This report will also mention the limits in digitalisation. And finally with the example of the marketing methodology, the report will highlight what artificial intelligence technology can and cannot do and what should be taken into consideration when applying it.

IMPLEMENTATION METHODOLOGY

This report will describe and analyse how digital technologies are used in the sales operations of the theatre using the example of Melin Tregwynt as a point of reference.

Regarding artificial intelligence in marketing, the newness of the technology will force the implementation to be gradual to avoid the pitfalls while evaluating what the limits mean for a company like Melin Tregwynt. It is important for this report to identify key elements that would allow for artificial intelligence technology in marketing to be proven as successful for the theatre to make ethical informed decisions.

BACKGROUND RESEARCH

A digital strategy applied to the sales process

The first process to explore is the sales process with a distinction between digitisation and digitalisation. Firstly, digitisation can play a positive role in making tasks more efficient, more accessible, more accurate and more secure. As a first stage, digitisation would shift the sales tasks from a paper base type process to a computer base type one to access, store, communicate and process data. Digitisation reduce the need for printed documents reducing costs and physical filing. Secondly, digitalisation as a result of digitisation would be the drive to develop new administrative procedures. It is actually the progress of the internal processes of the company along with new ways of cooperating and engaging with customers that creates this shift to digitalisation (Amankwah-Amoah, J. et al., 2021).

A description of the sales process at Small World Theatre will be followed by an analysis of the benefits of a digital strategy with the dangers of the digitalisation technology which be illustrated with difficulties encountered by Melin Tregwynt.

Task position	Task description	Task difficulties
1	Receiving enquiries by email	Keeping track of details when customers prefer using phone when asking to make a change
2a	Booking using online platforms with manual entries by the customer	Finding the right platform when customers not satisfied
2b	Booking using shared calendar with manual entries by the theatre	Not overselling and keeping track of requirements
2c	Booking made on spreadsheet managed by the organiser	Keeping personal data safe
3a	Payment managed by online platform	None to report
3b	Payment made by bank transfer following a manual invoicing	No fixed price with reliance on formula entered manually. Task executed twice because it needs to be re-entered in the accounting system, wasting time and effort
3c	Payment made in cash at the beginning of the event	In time of pandemic, can be perceived as unsafe by customers and requires more

As Smith (2019) describes in his article the base of digitalisation starts with document management systems to find documents efficiently. When these documents are available digitally they can be access anywhere by any allowed person. It means that the company's teams can work remotely and from home when needed. The danger of that is the negative effects on employees' work-life balance. A problem highlighted by one of the theatre's team member when colleagues assume an all time availability.

The danger of remote working as Kniffin et al. (2021) question could potentially apply to a customer relationship as to non verbal communication can lead to misunderstanding and silence empathy. It is probably the reason why customers still prefer the phone to dialogue.

Although the article by Saarikko, T., Westergren, U.H. and Blomquist, T. (2020) uses the Internet of things (IoT) to show the difficulties that companies can encounter when implementing digital technologies, it gives recommendations as to developing digital strategies:

(1) Start small and build on firsthand benefits; (2) team up and create competitive advantage from brand recognition; (3) engage in standardization efforts; (4) take responsibility for data ownership and ethics; and (5) own the change and ensure organization-wide commitment.

This article insists on the importance of a strategy when implementing digital technologies. Without that, it would be like using a Photoshop effect for the fun of it with no creative intention behind it. The importance of a strategy is to make it a company's journey driven by the top leaders involving all the teams. That is where Melin Tregwynt's experience can be beneficial to the theatre: it is important to choose technologies that integrate with each other to allow different users to retrieve any data if needed at various stages, to guarantee fluidity of the tasks, and facilitate informed decision making in a secured manner.

This way of working relies on a high speed internet connection; only 3.9% of internet connections in Wales cannot be qualified as super fast broadband making this way of working possible.

Artificial intelligence in marketing

Digitalisation allows to collect data, and data is the source of artificial intelligence. So this report will study artificial intelligence as a continuation of digitalisation when applied to marketing.

First, the report will describe the tasks undertaken by Melin Tregwynt:

Task position	Task description	Task difficulties
1	Collecting emails and names of subscribers to newsletters at two different stages: on the business website when discovering about the company, on the e-commerce website after a transaction.	No centralised data capture
2	Offering the possibility of subscribing to receive a printed catalogue in which case the postal address is required.	None to report
3	Each website is linked to its own database automatically: one to a marketing platform and the other to a customer engagement platform which is then used to send out emails, requiring a manual import of data from the marketing platform with limited data capture.	Time wasting
4	This data populates a list of subscribers to whom the company send a monthly newsletter and an additional promotional email.	No customisation with the risk of becoming irrelevant and increasing the number of unsubscribers
5	This is finally automatically posted on various social media platforms.	Same message distributed on all platforms regardless of the specifics and their users' expectation. Format not adapted and legibility compromised
6	Extra lists, for instance press contacts, are entered manually.	Keeping data accurate and updated is a tedious task with room for errors

In this process, there are gaps in terms of automation and, the one size fit all approach creates waste. The following figures will illustrate this waste: around 20% of the newsletters are opened and around 40% of the

promotional emails. These are sent twice a month to around 40,000 contacts and growing. This means that 56,000 of emails will be left unread mounting to over 33 tonnes of CO2. Such marketing campaigns would benefit from a more detailed data to effectively target the audience. This is where artificial intelligence technology can fit in the marketing operations of a company analysing unstructured rich data created by potential customers. Indeed the marketing research tools such as tracking a customer journey on the web and drawing a network of data are optimised using artificial intelligence and facilitate decision making. In other words it connects the dots between what would be regarded as intuition and general knowledge as it learns from trends in data. It can not only interpret data, but also find a cause and predict the customers' actions (Ma, L. and Sun, B., 2020). Artificial intelligence's potential resides on the exponential ability to interpret a vast quantity of data, that no one in the company could analyse in real time using Google Analytics or other similar tools. As Chintalapati S. and Pandey, S. K. (2022) categorised the findings of their study of artificial intelligence technology in marketing in five functions:

Function	Examples
integrated digital marketing	personalised content recommendations and intelligent advertising
content marketing	intelligent content curation and content personalisation
experiential marketing	virtual assistant
marketing operations	real-time forecasting, pricing and promotional recommender systems and real-time copy writing
market research	customer segmentation using behaviour analysis and trend forecasting

This study highlights the essential role of artificial intelligence for forecasting with accuracy, improved marketing insights, superior quality product, customised campaigns in real-time, more efficient operations, and valuable customer experience. This technology allows marketers to focus on the company's message and branding, demonstrating its value not only through ROI but also engagement and retention of customers.

These functions are the results of data analysis combined with machine learning. In the most recent survey by McKinsey management consulting company, it appears that 27% of the survey's respondents said that a minimum of 5% of their operating profit was down to artificial intelligence.

However collecting, analysing data and using data presents its responsibility. Privacy risks can arise a first time during the collection of data if done without informed consent, a second time when stored if not secure or de-anonymised, and finally when artificial intelligence technologies create a network of data comparing the customer's data and data from other customers.

If the data becomes available and secured, the next potential issue is the very nature of artificial intelligence. De Bruyn et al. (2020) explain that the algorithms used in artificial intelligence are not just adjusting a designed model but they create that optimal model which causes some legal and ethical issues because of the artificial intelligence's lack of common sense. This idea is reinforced in Hermann's (2021) article where artificial intelligence is viewed as a technology which can lead to discrimination, therefore it is vital to apply what Hermann defines as the five ethical principles: beneficence, non-maleficence, justice, autonomy and explicability.

CONCLUSION

Even though this report does not provide Industry 4.0 solutions to manufacturing processes because of the type of business Small World Theatre is, it addresses what new technologies from Industry 4.0 can apply to a service based company when considering the administrative tasks.

The last couple of years cannot be ignored by any companies in any sector. All had to adapt in some way and it is fair to say that digital technologies had to be implemented almost overnight for these companies to survive. Therefore a strategy would be beneficial even at posteriori to bring efficiency while respecting the human.

The algorithms used in the artificial intelligence technology may create unexpected results very different from the designer's intention and human behaviours do not follow rules with potential surprising consequences as well. So when artificial intelligence is used for marketing purposes, its time saving benefits may not be that obvious when it needs perfect planning and monitoring. On the positive side, it creates arenas of citizenship (Trittin-Ulbrich, Scherer, A. G., Munro, I., & Whelan, G., 2021) when a community can be brought together by algorithms.

RECOMMENDATIONS

When applying Industry 4.0 technologies, it is essential to draw up a strategy to implement it in an incremental way to bring all stakeholders on board and have a chance of success and mitigate any risks to the human aspect inherent to companies. It is especially true with Small World Theatre when dealing with vulnerable people. Their data must be secure and used in a respectful manner which a computer cannot inherently do, having no tacit knowledge.

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