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Marketing automation, social networks, workspace and investments for industry 5.0

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Abstract

Human-centricity, sustainability, and resiliency are attributes defining industry or society 5.0 which are approaching the value chain from needs of consumers to resources of suppliers. Tested impact of resources from those opposed ends of the value chain in two studies was incorporated to marketing strategy through their roles in scenarios. The objective of this article is to demonstrate how positivist studies stimulate followers to become part of scenarios and strategies developing market and institutions towards sustainability, resilience and human-centricity of industry 5.0. Our results demonstrate that short learning time social networks have reached a high number of contacts for branding opposed to marketing automation which generated sales from few contacts. Workspace redesign according to 5S decreased time of operations seven times. It allowed either to process seven times more resources or save time of own staff, or staff tendering projects as outsourced knowledge in comparison with purchased investments such as RFID and IoT. Roles were interacted in scenarios to elaborate marketing strategy for such dominating situations as market economy, sharing economy, and war. Sharing economy was the only alternative which allowed to develop markets and resources at ends of the value chain due to its found fast development. Therefore, our results suggest that social networks, marketing automation, 5S method, and technologies such as RFID and IoT are developing a sharing economy of 5.0 industry kind so fast that wars and market competition must fail.

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1. Introduction

Positivist studies with significant results are rarely adopted by business. Similarly, promotion on social networks, marketing automation and workspace optimization using 5S method are adopted but rarely complement scenarios and strategies of companies for market or ability of institutions to react to developing situations. This low efficiency of scientists, methods and tools can increase if prosumers and investors step into the game. Prosumers both produce and consume when sharing information, information assets, or skills of knowledge workers. The research question asked whether sharing information on social networks, or broadcasting of elaborated information assets by marketing automation overcome performance of investments by rationalization of workspace? Positive answer would convert pure market or politics leading to wars into sustainable, human-centered and resilient industry 5.0 which is close to a sharing economy.

The objective of this article is to demonstrate how positivist studies stimulate followers to become part of scenarios and strategies developing market and institutions towards sustainability, resilience and human-centricity of industry 5.0.

2. Literature overview

Meaning of technologies to change attitudes of consumers to prosumers and make behavior of institutions more proactive to both positive science and developing situations towards human-centricity, sustainability, and resiliency as attributes of industry or society 5.0 (Leng et al., 2022) is defined in this section.

2.1. Institutions

Human-centricity, sustainability, and resiliency are attributes defining industry or society 5.0 (Leng et al., 2022) are changing roles of institutions. Coexistence of politics and market in different proportions generated sufficient wealth replacing social economies and if not then inhabitants protest, institutions oppress them and they migrate out of such a country. Therefore, concepts of traditional industry and institutions need to change. Megaprojects are developed as niches of sociotechnical transitions which were monitored during cases of digitalization in UK construction (Papadonikolaki, Morgan, Papachristos, 2023). It was found that institutions do not play an important role in changing sociotechnical systems. Four different legitimation strategies that contribute to institutionally stabilizing emerging German smart home imaginaries: cognitive/emotional alignment, solutionism, coupling with normative goals and expert/scientific legitimation revealed that visions in their formation phase are shared only between small actor collectives (Rohde, Santarius, 2023). Software as the main instrument of sharing human and technical innovations inspired visionaries to propose turn of industry from high performance (3.0) to instantly developing human-centricity, sustainability, and resiliency of industry 5.0 (Leng et al., 2022) to use imaginaries of humans who are already using robots, automata in their smart homes (Rohde, Santarius, 2023), and for never-ending restarts of their careers (Figure 1).

2.2. Sharing human-centricity

Companies of the sharing economy such as Airbnb or Uber demonstrated that institutions and markets are altered by shared assets of individual people. Social networks demonstrated that people share information and adapt to it

accordingly. Similarly, a robot is considered as a team member. Participants in the hybrid teams perceive less mental demand with an effect size of 0.36, less temporal demand with an effect size of 0.29, and less frustration with an effect size of 0.073 on average than participants in the human-only teams. Participants in the hybrid teams also believe that they accomplish the design task more successfully (with an effect size of 0.16) and spend less effort (with an effect size of 0.14) on average to accomplish their level of performance compared to participants in the human-only teams. However, these results do not have statistical significance ($p > 0.10$ for all results) (Zhang et al, 2021). This quantification is valid for one observed case of a sociotechnical system (STS). And, STS are generating attitudinal change in which AI or robots are evaluated according to social presence they generate in minds of humans (Fig. 1).

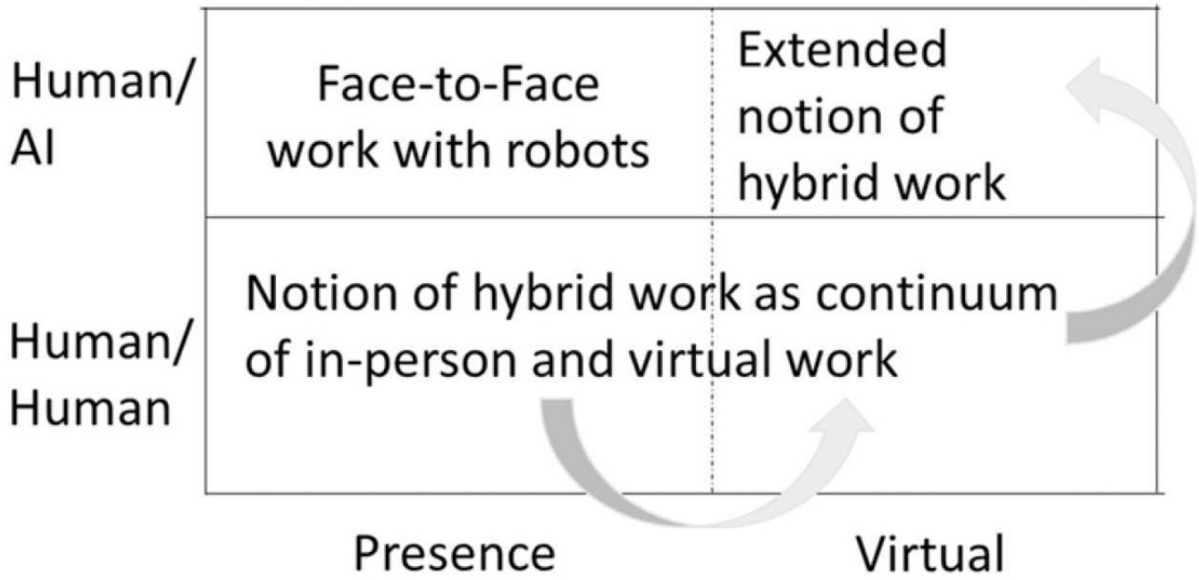

Figure 1. Forms of human-centricity towards industry 5.0

Source: Dwivedi et al, 2023

2.3. Individuals

Affiliation of humans to technical systems such as AI or robots was found in such attributes as social presence, perceived intelligence, and social attraction in influencing consumer brand engagement (McLean, Osei-Frimpong, Barhorst, 2021) which generate different imaginaries for servicing personnel and governmental institutions (Hoff, 2023) if presented as graphics or text (Schulze-Meeßen, Hamborg, 2023).

Extremes of politics, such as cutting developmental investments off during crises or open war disrupt stability, and hinder innovation of the overall business environment.

Consequent decline in infrastructure development, reduced funding for research and development, a lack of support for entrepreneurial activities and limited job opportunities change behaviour of consumers who start filling those gaps as producers and we call them prosumers. Abundance of free resources in the economy stops replacing local by global businesses and starts a sharing economy. Methods of craftsmen and technologies of scientists inspire prosumers while developing both market and sharing economy.

Craftsmen with 5S (a methodology for organizing and improving workplace efficiency) and scientists with new technologies such as social networks, marketing automation, and AI are preventing the extremes of politics and mitigating their negative impacts on the market and the sharing economy. Here's how:

Craftsmen with 5S: Craftsmen, who are skilled workers in various trades and professions, can contribute to economic stability and resilience. By implementing the principles of 5S (Sort, Set in Order, Shine, Standardize, Sustain), craftsmen can enhance workplace efficiency, reduce waste, and optimize resource utilization. This can lead to increased productivity, cost savings, and improved competitiveness, which are crucial in times of economic uncertainty. By maintaining efficient operations, craftsmen can continue to provide their services within the sharing economy and contribute to its growth even during political extremes.

Scientists with new technologies: Scientists, researchers, and innovators utilizing new technologies such as social networks, marketing automation, and AI can also play a significant role. These technologies enable effective communication, targeted marketing campaigns, and data-driven decision-making, which are valuable in adapting to changing circumstances and overcoming challenges posed by political extremes. For example:

Social networks: Scientists can leverage social networks to disseminate information, engage with communities, and promote collaboration. This can help counteract the isolation and polarization that can occur during political extremes, fostering dialogue, understanding, and collective problem-solving.

Marketing automation: By utilizing marketing automation tools, scientists and businesses can continue to reach their target audience, nurture leads, and maintain customer engagement even in challenging times. This allows them to adapt their marketing strategies, optimize resources, and sustain their presence in the market and the sharing economy.

AI: Artificial intelligence can be utilized by scientists and businesses to analyze large volumes of data, make informed decisions, and automate processes. During political extremes, AI can help identify patterns, anticipate trends, and enable more effective resource allocation and risk management.

By leveraging these technologies and approaches, craftsmen with 5S and scientists with new technologies can contribute to economic stability, resilience, and innovation, thereby preventing the negative impacts of extreme politics on the market and the sharing economy.

It's important to note that while craftsmen and scientists can contribute to mitigating the effects of extreme politics, addressing and preventing political extremes ultimately requires broader societal and political efforts such as effective governance, policy frameworks, and social cohesion.

A decision-making analysis demonstrates contributions of prosumers both craftsmen with 5S and scientists (Table 1).

Table 1. Impact of craftsmen and engineers on market and politics.

Decision-Making Analysis	Extremes of Politics (Cutting Developmental Investments)	Market and Sharing Economy
Prosumers as craftsmen with 5S	Implement 5S principles to enhance efficiency and optimize resource utilization. This can help craftsmen continue to provide their services within the sharing economy, despite the impact of political extremes.	Improve workplace productivity, reduce waste, and optimize operations, contributing to economic stability and resilience. Craftsmen can adapt their approaches and maintain competitiveness, even in challenging circumstances.
Scientists with New Technologies	Utilize social networks to disseminate information, engage communities, and promote collaboration. By fostering dialogue and understanding, scientists can help counteract the isolation and polarization caused by political extremes.	Leverage marketing automation tools to maintain customer engagement, optimize marketing strategies, and sustain presence in the market and sharing economy. Utilize AI to analyse data, anticipate trends, and enable effective resource allocation and risk management during political extremes.

The general overview of how craftsmen with 5S and scientists with new technologies can mitigate the impacts of extremes of politics on the market and sharing economy vary depending on the context and the nature of the political extremes.

3. Method

Positivist methods are confirmed by empirical results of two related studies which construct a socio-technical system (STS).

Firstly, the methodology of study about technologies of scientists compares two campaigns using different platforms: one campaign utilizing Mautic for marketing automation and the other campaign conducted on the Instagram social network. The evaluation of campaign effectiveness is based on criteria such as reach, number of link clicks, and subsequent actions taken, specifically booking appointments.

The data gathering process involves utilizing Mautic and Meta Business Suite. The results will be evaluated using mathematical and statistical methods. Originally, Mautic was intended to be integrated with the company's e-shop, but due to the rejection of implementing marketing automation, an alternative approach was taken using affiliate marketing principles.

The comparison of campaign effectiveness is based on the following criteria: reach, number of link clicks, and the execution of subsequent actions, such as appointment reservations. Meta Business Suite measured reach and link clicks using, focusing on accounts that have been exposed to the promotion on Instagram. The execution of subsequent actions was measured according to received private messages from potential customers. The target market segment consists of users interested in utilizing photography services.

On Instagram, reach can be considered a form of attention, while likes and shares indicate user interest. Saving a post signifies that users liked it and would like to revisit it or desire to associate with it. Visiting a profile represents an action taken. In Mautic, the number of visits demonstrates attention, time spent on pages indicates interest, repeated visits signify desire, and action is reflected by performing an activity.

In Mautic, reach is assessed based on landing page visits, and the execution of subsequent actions are evaluated through completed forms. Mautic campaign consisted of two parts: firstly, two offers of service were demonstrated at landing pages and secondly, emails were sent to obtain contacts. The first offer was a discount for first order while the second offer was 2+1 volume discount to encourage repeat purchases.

Instagram directs users to the author's portfolio, where they may contact the photographer, place orders, and take advantage of promotional offers.

Overall, the methodology aims to compare the effectiveness of campaigns conducted through different platforms by measuring various metrics related to user engagement and subsequent actions.

Secondly, the method of craftsmen who are converting their workshops to industry is reengineering processes, place and investments according to the 5S principle. Results of this inventive and hands on approach are confirmed by a feedback chronometry. Efficiency of this workspace redesign was compared with alternative investments into RFI and IoT technologies.

4. Results

Significant results of study one and two are presented and their impact on roles in scenarios for strategies in alternative development of external situations is discussed.

4.1. Study 1

In the created campaigns, two forms of slogans were tested. The campaign proposal for this thesis focused on testing the words "discount" and "free."

The tested word "discount" was used in an offer for new customers. This type of offer is suitable for attracting new customers who haven't tried the service yet but might be interested in it. The discount provides customers with a sense of a more advantageous purchase. If the customer is satisfied, it is highly likely that they will return for the service and pay the full price.

A discount of 20% was chosen from many other variations. In marketing, discounts of 20%, 25%, 30%, 50%, and 70% are most commonly used. If the discount were set at 70%, users might perceive it as a low-quality service that nobody wants to buy. Therefore, the discount was chosen at a lower percentage to attract customers who might be interested in the service even without a discount, but the offer would pleasantly surprise them.

The tested word "free" was used in an offer to engage customers in using the service multiple times. When the word "free" is emphasized in the offer, it can significantly influence customer behaviour. The most common offers are "buy one, get one free," "buy two, get one free," and "buy three, get one free."

For campaign preparation, the strategy of offering "buy two, get one free" was chosen. This offer convinces users to

utilize the service more than twice, resulting in repeated customer returns. This offer is advantageous for service providers in terms of profitability.

Overall, the campaign aimed to test the effectiveness of different slogans ("discount" and "free") in attracting new customers and encouraging repeated use of the service.

A total of 145 unique visits were generated from March 14, 2023, to March 24, 2023, resulting in a total of 59 contacts. Therefore, the interest in offers accounted for only 40.69% of the total number of visits. Welcome emails were read by 76.59% of users, while the remaining 23.41% did not display the welcome email. No delivery failures occurred for the welcome emails. The welcome emails were segmented based on the type of offer chosen by the user. The individual offers and their results are described in the following chapters.

The second part of the campaign consisted of sending available dates. The sent email was created on March 27, 2023, at 16:00. Data was collected until April 3, 2023, at 23:59. It involved sending emails to the provided 59 email addresses.

Emails with available dates were most frequently opened between 14:00-15:00 and 16:00-17:00. The dates were initially scheduled for April and May. In May 2023, additional available dates will be sent for June, July, etc. Out of the total 59 emails sent, 39 users, accounting for 66.1% of the total recipients, read the email. Among them, 31 users opened the link with available dates. Just like with the welcome emails, there were no delivery failures. None of the users unsubscribed from the email list, indicating that users are interested in receiving further offers in the future. A total of 26 users, or 44.06% of all generated contacts, chose available dates for April and May.

Mautic campaign

The offer "20% discount on the first photoshoot": The first offer was titled "20% discount on the first photoshoot." This offer aimed to attract new clients. A total of 38 users, accounting for 64.41% of the total 59 contacts, expressed interest in this offer. Out of the total 183 visits to this offer, there were 82 unique visits and 101 repeated visits.

The offer "2+1 free photoshoot": Out of the total 137 visits to this offer, there were 63 unique visits and 74 repeated visits. The visit ratio for the landing pages of both offers was 183:137. The "20% discount on the first photoshoot" offer generated 14.38% more visits. Thus, the data suggests that the discount offer garnered more interest than the quantity-based offer. Based on the data obtained through the Mautic software, users showed more interest in a discount for their first purchase.

A total of 38 contacts expressed interest in the "20% discount on the first photoshoot" offer, out of which 19 users booked a date. For the "2+1 free photoshoot" offer, 21 contacts expressed interest, and 7 of them booked a date. This corresponds to 66.1% of the total contacts for the "20% discount on the first photoshoot" offer and 35.58% for the "2+1 free photoshoot" offer."

The results of the Instagram campaign can be summarized as follows:

Campaign Details:

The campaign was conducted on Instagram, utilizing the Meta Business Suite for promotion.

The profile used for the campaign was "weru_photography," which had 38 followers and a total of 8 posts.

The posts on the profile featured black and white filtered photos, showcasing the photographer's most commonly used genre, which is portraiture.

Two different offers were presented, each with a clear text description and a consistent visual style.

Offer 1: "20% Discount on First Photoshoot":

The post was published on Instagram on March 27, 2023, and the promotion started on March 28, 2023.

The caption provided a detailed description of the offer, written in a friendly tone, and included 7 hashtags.

The campaign achieved a reach of 1,800 accounts over seven days, with 40 clicks on the portfolio link.

The total cost of the campaign was 210.65 Kč, with an average cost per click of 5.27 Kč.

The post received 41 engagements, including 40 clicks on the link and 1 reaction.

Offer 2: "2+1 Free Photoshoot":

The post was published on Instagram on March 27, 2023, and the promotion started on March 29, 2023.

The campaign achieved a reach of 2,218 accounts over seven days, with 58 clicks on the portfolio link.

The total cost of the campaign was 210.56 Kč, with an average cost per click of 3.63 Kč.

There were no conversions or bookings resulting from the campaign.

The post received 7 engagements in the form of likes but had no comments or shares.

Comparison and Interest:

The second offer, "2+1 Free Photoshoot," had a higher reach and more clicks on the portfolio link compared to the first offer.

The interest in both offers was highest among users aged 18-24, followed by users aged 45-64.

The majority of viewers were women aged 18-24 and men aged 45-54.

Neither campaign generated any private conversations or bookings.

Overall, the second offer, "2+1 Free Photoshoot," performed better in terms of reach and clicks on the portfolio link. However, neither campaign resulted in conversions or bookings. The interest in the portfolio, indicated by visits, accounted for only a small percentage of the total users reached during the campaigns.

Conclusions of study one

Promotion on Instagram had a larger reach but zero value for customers, as no one utilized the offer. On the other hand, Mautic had a smaller reach but created value for customers, with 26 clients utilizing the offer from a startup company.

The more effective option in terms of creating value for customers is the use of marketing automation. In the experiment, 31 users clicked on the link in the email sent through Mautic. A total of 26 users utilized the offer, accounting for 44.06% of all contacts during the experiment. Mautic recorded a total of 145 unique visits. The most popular offer was a 20% discount on the first photoshoot.

The more effective option in terms of reach is the use of promotion on social networks. The total reach was 4,018 accounts in 7 days. The reach on social networks was significantly greater than that achieved through Mautic. There were 98 clicks on the link, representing only 2.44% of the total reach. None of the users took further action such as booking an appointment.

The Instagram campaign did not create value for customers, and therefore, it did not increase the revenue of the startup company. The majority of the targeted Instagram accounts were in the age group of 18-24, predominantly female. The more popular offer was a 2+1 free photoshoot, indicating a quantity discount.

Setting up promotions on Instagram is quick, allowing the selection of campaign objectives and target audience. The promoter can set a daily budget for promotion and the overall duration. In contrast, setting up marketing automation is more complex, but Mautic is completely free. For startup companies, it does not impose any financial burden and can bring profit if successful.

Marketing automation is advantageous for companies that understand the setup of automated campaigns well. Greater campaign effectiveness in Mautic could be achieved through direct integration with the company's websites. However, this process requires placing tracking codes on all company web pages. Not every company is willing to modify the source code of their websites, so it is likely better to set up marketing automation internally rather than externally.

Without the application of marketing automation to the company's website, this affiliate marketing campaign had lower performance compared to social networks.

Based on the data obtained from Mautic and Meta Business Suite, the author recommends the use of marketing automation for startup companies. The campaign on Instagram, which created zero value for customers, did not increase revenue compared to the campaign on Mautic, which did create value for customers.

Further analysis from an economic and psychological perspective would be interesting, evaluating the impact of social networks on society and their functioning as one of the tools in marketing strategies.

4.2. Study two

Fishbone diagram, and relationship between problems and sources which were quantified by weights identified that

following cases require improvement:

- Products not belonging to the company.
- Products not meeting warranty requirements.
- Disorganized work tools without specific designated places.

To address these identified issues, a more detailed examination was conducted. As part of this process, the second work area was arranged and sorted to create a more organized workspace. The state of the second work area was evaluated before the implementation of the 5S methodology and will be examined again after its application.

To demonstrate this progress, two tables will be created. These tables will include recorded times from five measurements, indicating the time employees required to locate their tools after the implementation of the 5S methodology compared to before its application. The identified areas in the post-sales process where changes were implemented are listed below:

Workbench: Designed for product diagnosis and repair. It was suggested to store frequently used hand tools on a tool-hanging panel.

Storage rack: Consisting of three (or more) sections for storing products and tools. For example, short-term repair products, products awaiting classification, and non-daily-use tools. It is necessary to create separate locations for different products and tools. Unnecessary and redundant products and tools are separated, categorized, and placed on dedicated shelves. Labeling and segmenting the workspace will eliminate misunderstandings and incorrect placement of work tools, resulting in a transparent work area. Other areas identified during various steps of the post-sales process include:

Returned product reception: Reserved for storing returned products until further processing.

Administrative desk: Used for administrative tasks related to post-sales service, process registration in systems, communication with advertisements and customers.

Testing room: Specific location designated for product testing, which can take several hours or even a day or two.

Rejected products: Segregation of rejected products by type (e.g., projectors, lamps, etc.).

Storage shelves for reused components (dismantling of returned products): Classification based on the type of individual components (e.g., LED, glass, etc.).

Storage of rejected items in shelves: Boxes containing rejected products are stored in shelves until the closure of the credit note process with suppliers, as suppliers sometimes request the return of products to the production line. Once the process with suppliers is completed, the waste is sent for recycling.

By implementing the 5S methodology, functionality of workspaces and reduction of errors in individual processes, particularly order preparation and post-sales processes, will be improved. The designated spaces for receiving returned products, workbench, administrative desk, waste storage, shelves for reused components, product storage, etc., will

contribute to the efficiency of the work areas and elimination of errors.

The tool search times ranged from 1.30 to 3.15 before the implementation of the 5S method, and from 0.13 to 0.31 after the implementation of the 5S method. The purpose of depicting the tool search evaluations on the line graphs before and after the 5S implementation is to ensure transparency in monitoring the tool status, easy identification of dysfunctions, and to facilitate the maintenance of previous improvements and continuous development in the work area.

In the first position of the table, the measured impact of the dependent variable, human behavior on tool search time, is presented in columns for each day of the week. In the second position of the table, the significance of the tool's impact on tool search time is shown in rows. The table demonstrates the multiplicative difference in tool search time savings, as referenced in the work, which is evident from the reliable difference. However, the correlation values indicate that there are positive (+) relationships between some variables and negative (-) relationships between others. It is advisable to monitor relationships with a high positive value to maintain or reduce the newly established performance (lower tool search time). Conversely, relationships with a high negative value decrease the newly established performance (lower tool search time). The correlations in the days of the week are marked in red in table number 7 for result interpretation. The difference is explained by rounding.

The correlation values in the days of the week indicate a positive influence of rest and workplace organization over the weekend (0.74) on time savings. A similar effect can be expected when adjusting the workplace upon the incorporation of a new employee. To avoid the negative influence of Thursday (-0.68), it is recommended to rotate employees between workstations on Thursdays, thus achieving the effect of Monday (0.74).

The combined key value of -0.674 shows that it lost significance after workplace adjustments and was replaced by an Allen wrench (0.668), a precise key (0.548), and a hammer tapping (0.442). The hammer tapping may sometimes not work, and the piece needs to be held with a clamp (0.810). The significance of the clamp increases when material deformation occurs due to improper tapping. This material deformation caused by improper tapping becomes a problem, especially on Thursdays (-0.68), when the operator's concentration decreases due to fatigue from the first half of the week. This conclusion about the relationships between tools and operator concentration is derived from Appendix V, Graph 3, which evaluates tool search after the implementation of 5S, where the clamp starts to have an extreme position on Thursdays.

The observed development has demonstrated a seven-fold time savings by implementing previous measures. The total time employees needed for tool search after the implementation of the 5S method is 6.97 times lower than the total time spent searching for tools before the implementation of 5S.

The conclusions of the study two about craftsmen approach to the development are as follows:

The implementation of the 5S method resulted in significant benefits, such as saving time and improving efficiency in finding work tools.

The implementation of various measures, including organizing tools, sorting unwanted items, and labeling tools, led to a

sevenfold time saving in tool search.

Statistical analysis showed a positive correlation between human behavior during the workweek and tool efficiency before and after workplace organization.

High positive correlation values indicated variables that have a positive impact on reducing tool search time, while variables with high negative correlation values require solutions such as rotating employees between workstations.

The analysis of tool usage indicates that certain tools, such as the combined key, lost their significance and were replaced with more suitable alternatives, such as the impact wrench with a precise hammer key.

The implementation of lean thinking and continuous improvement tools resulted in increased productivity, cost reduction, and elimination of waste through better time utilization.

The company's ability to provide high-quality products and services to customers improved, leading to increased customer satisfaction.

Cross-training and communication among employees contributed to a healthy work environment and the rapid development of commercial activities.

Solutions were proposed to improve inventory management and processes, such as the implementation of RFID technology for real-time inventory tracking.

The purchase of new equipment, such as adjustable tables and scanners, was recommended to improve the comfort and performance of the workforce.

Identified risks and deficiencies in the loading process were addressed through solutions such as scanning SSCC codes, installing CCTV cameras, and implementing a key management system.

The introduction of an IoT-based material management system was considered beneficial for dynamic changes and strengthening control in the company's supply chain.

Reorganizing the warehouse design was discussed as a way to shorten the production cycle and optimize resource utilization.

Seven steps were followed in the warehouse redesign process, including data collection, generating and evaluating different design proposals, and implementing the best layout.

These conclusions highlight the positive impact of implementing the 5S method, lean thinking, and various improvement measures on efficiency, productivity, and cost reduction within the company. They also suggest specific solutions and steps for further optimization and improvement in various areas of operation.

5. Discussion of fit of roles, scenarios, strategies, and situations

Conclusions about information sharing, elaboration of information assets (study 1) and workspace adaptation (study 2) the representatives of politics and market leading companies may not respect due to proposals giving power to the sharing economy. Therefore, decisions from strategy to tactics need to respect the real situation in politics and markets. The rows will represent the different threads or factors, and the columns will represent the measured company and the suppliers' workshops (Table 2).

- Lost Job due to Robotisation: The measured company has a lower score of 2, indicating a relatively lower risk of job loss due to robotization. On the other hand, the suppliers' workshops have a higher score of 5, indicating a higher risk of job loss in their case.
- Repayments of Investments to RFID and IoT: The measured company has a score of 4, suggesting that they have made some investments in RFID and IoT but are still in the process of repayment. In contrast, the suppliers' workshops have a score of 6, indicating that they have fully repaid their investments and are reaping the benefits.
- Workspace Redesign Needs 7 Times Less Time: The measured company has the highest score of 6, suggesting that their workspace redesign process is highly efficient and requires significantly less time. In comparison, the suppliers' workshops have a score of 5, indicating that their workspace redesign process is relatively less efficient.
- Resistance against Managers' Observing: The measured company has a score of 3, indicating some resistance from employees towards managers' observations. In contrast, the suppliers' workshops have a lower score of 1, suggesting less resistance in their case.

Totals are not very different but outsourced development got 27 opposed to in-house one 34 points.

Table 2. Attributes of in-house and outsourced 5S application

	Measured Company's Own Development	Outsourced Innovation from Suppliers' Workshops
Lost Job due to Robotisation	2	5
Repayments of Investments (RFID, IoT)	4	6
Workspace Redesign (7 Times Less Time	6	5
Resistance against Managers' Observing	3	1
Speed	4	6
Cost	3	5
Benefits	5	6
Total	27	34

It should be added that politics and economics will change as politics expose bottom-up effects to taxation to invest collected money to traditional sectors and economics calculates return on investment according to pessimism or optimism of author, not according to switch to faster development of innovations due to faster development in-house application of 5S with IoT. Still, a lot should be done when moving power from economics and politics to bottom-up development of

projects (Table 3).

Table 3. Decisions about developmental technologies according to external conditions

	Alternative institutions at extremes			Studies	
Factor	1: Politics between Crisis and War	2: Market (Either Global or Trade Barriers)	3: Sharing Economy	1: Development of market by Social Networks and Marketing Automation	2: Development of Workspace by processes and investments by Craftsmen (5S)
Marketing Strategy	Adapt to changing conditions	Adjust to trade restrictions	Utilize collaborative models	Utilize marketing automation over social networks	Implement 5S methodology in workspace
Customer Value	Focus on value creation	Identify opportunities in restricted markets	Promote shared resources	Create value for customers by marketing automation assets	Improve functionality and efficiency by 5S
Reach and Engagement	Communicate effectively	Explore alternative markets and channels	Foster collaboration	Social networks had a larger reach	5S methodology reduced errors and enhanced efficiency
Conversion and Profitability	Evaluate conversion rates	Analyze potential profitability in new markets	Assess cost and benefits	Marketing automation had potential for profit	Reduced search time of tool by 5S
Implementation challenges	Address crises and conflicts	Navigate trade barriers and regulations	Overcome trust and security concerns	Modifications to website's source code may be required	Rotating employees on Thursdays to counteract negative influence
Further Research	Study societal impact	Analyze economic implications and consumer behavior	Examine collaborative economy	Investigate social networks' impact on marketing strategies	Explore correlations between tools and operator concentration
Recommendation	Adapt strategies and be proactive	Seek opportunities within trade restrictions	Leverage sharing economy models	Consider marketing automation with website integration	Implement 5S methodology and rotate employees on Thursdays

The table above presents a summary of the decision-making factors and their corresponding recommendations. The specific actions and strategies will depend on the context and goals of the company or organization.

Outer Contacts from Social Networks: Priority: Medium Scenarios:

Scenario 1: Leveraging social networks to expand reach and engage with potential customers can be valuable for brand visibility and customer acquisition. This can be prioritized when there is a need to increase brand awareness or tap into new markets.

Scenario 2: If the social network presence is not generating significant conversions or revenue, it may be more effective to allocate resources to other marketing channels with better conversion rates. Consider reducing priority on social network outreach in such cases.

Customers from Marketing Automation: Priority: High Scenarios:

Scenario 1: Marketing automation has shown to create value for customers and generate interest. Prioritize this approach to nurture leads, improve customer engagement, and drive conversions.

Scenario 2: If the setup and integration of marketing automation require significant resources or modifications to the

website's source code, carefully assess the cost-benefit analysis. Prioritize marketing automation if the potential for profit and long-term customer value outweighs the implementation challenges.

Investments in Improving Processes (RFID or IoT): Priority: Variable (Depends on the specific context and needs of the company) Scenarios:

Scenario 1: If the current processes are inefficient, error-prone, or hindering productivity, investing in technologies like RFID or IoT can significantly improve operational efficiency. Consider prioritizing these investments if there is a clear return on investment (ROI) and potential for process optimization.

Scenario 2: If the current processes are already streamlined and there is no immediate need for technological advancements, allocating resources to other areas might be more appropriate. Prioritize investments in process improvement based on an evaluation of the current state and potential benefits.

Workspace Restructuring according to 5S: Priority: Medium Scenarios:

Scenario 1: If the current workspace lacks organization, experiences errors, or has inefficient workflows, implementing the 5S methodology can bring significant improvements in functionality, efficiency, and error reduction. Prioritize workspace restructuring if it aligns with the company's goals and leads to tangible benefits.

Scenario 2: If the workspace is already well-organized and the current processes are functioning optimally, the priority for restructuring may be lower. However, periodic evaluations and adjustments based on changing needs or feedback from employees can be beneficial.

Priorities vary based on the specific circumstances of the company, industry, and goals which offer such substitution effects between scenarios as we know from marketing mix. Opportunities complementing effects of outer contacts from social networks, customers from marketing automation, investments improving processes such as RFID or IoT and workspace restructuring according to 5S are as follows:

1. Outer Contacts from Social Networks:

Complementing Effect with Customers from Marketing Automation: Social networks can serve as a channel to attract potential customers and generate leads. By leveraging social networks effectively, you can drive traffic to your marketing automation system, where you can nurture and engage these leads through automated campaigns. This integration allows you to capture leads from social networks and convert them into customers through personalized marketing automation efforts.

2. Customers from Marketing Automation:

Complementing Effect with Investments in Process Improvement: Acquiring customers through marketing automation provides an opportunity to gather data and insights about their preferences and behaviour. This information can be utilized to identify areas in your processes that can be improved, such as streamlining order fulfilment, enhancing customer

service, or optimizing supply chain operations. By investing in process improvement, the customer experience and operational efficiency the better customer satisfaction and retention can be reached.

3. Investments in Improving Processes (RFID or IoT):

Complementing Effect with Workspace Restructuring according to 5S: Implementing technologies like RFID or IoT in your processes can enable real-time data collection, automation, and improved visibility. This data can be utilized in workspace restructuring efforts based on the principles of 5S. For example, RFID or IoT can facilitate better organization, inventory management, and tracking of tools and equipment in the workspace. This integration can lead to smoother workflows, reduced errors, and increased overall efficiency.

4. Workspace Restructuring according to 5S:

Complementing Effect with Outer Contacts from Social Networks: A well-structured and organized workspace can positively impact productivity, employee morale, and customer perception. When customers visit your physical workspace, whether it's for meetings or product demonstrations, an organized and visually appealing environment can leave a positive impression. This can reinforce the brand image you project through your social network presence and create a cohesive experience for customers.

This holistic approach improves recognition of complementing effects and opportunities between these factors that leverage the strengths of each element to drive overall success. Aligned priorities such as information sharing, elaboration of information assets (study 1) and workspace adaptation (study 2) merge scenarios and proposals of all who are developing strategies including politicians and market leading companies to sustainable growth strategies in such a way that can be managed according to changing market conditions.

6. Conclusions

The objective of this article is to demonstrate how positivist studies stimulate followers to become part of scenarios and strategies developing market and institutions towards sustainability, resilience and human-centricity of industry 5.0. Based on the information provided in the study about the impact of social networks and marketing automation on the development of craftsmen – prosumer performance concerning extremes of politics, market, and sharing economy, the following conclusions can be derived:

Study 1:

The use of marketing automation, specifically through Mautic software, proved to be more effective in creating value for customers compared to promotion on Instagram. Mautic generated more interest and resulted in 26 clients utilizing the offer, whereas the Instagram campaign created zero value for customers.

Promotion on social networks, such as Instagram, had a larger reach compared to marketing automation. However, the conversion rate and user engagement were significantly lower on social networks, with only 2.44% of the total reach

clicking on the link and no bookings or conversions.

The 20% discount on the first photoshoot offer was more popular among users and generated more interest and bookings compared to the 2+1 free photoshoot offer. Discounts for the first purchase seemed to attract more customers.

Setting up promotions on Instagram is quick and easy, but it did not result in revenue increase for the startup company. On the other hand, marketing automation required more complex setup but created value for customers and had the potential for profit if successful.

Integration of marketing automation with the company's website could further enhance campaign effectiveness but might require modifications to the website's source code. Setting up marketing automation internally is recommended for companies that are unwilling to modify their website's source code.

Further economic and psychological analysis of social networks' impact on society and their role in marketing strategies would be interesting to explore.

Study 2:

Implementing the 5S methodology in workspaces resulted in improved functionality, reduction of errors, and increased efficiency in post-sales processes.

Organizing and designating specific areas for different tasks and tools, such as workbench, storage rack, returned product reception, administrative desk, testing room, rejected products, and storage shelves, contributed to the elimination of errors and improved work area efficiency.

The implementation of the 5S methodology significantly reduced tool search times, indicating better organization and accessibility of tools in the workspace.

Certain days of the week showed positive correlations with time savings, suggesting that rest and workplace organization over the weekend had a beneficial effect. Rotating employees between workstations on Thursdays could help counteract the negative influence observed on that day.

The correlations between tools and operator concentration highlighted the importance of proper tool usage and material deformation prevention, especially on Thursdays when fatigue from the first half of the week could affect concentration.

Overall, the implementation of the 5S methodology and proper workspace organization had a positive impact on efficiency and error reduction in post-sales processes.

Based on the results obtained in Study One and Two, we can adapt the table 1 of decision-making analysis concerning extremes of politics, market, and sharing economy as follows:

Table 3. Generalized impacts of situations on developmental scenarios

Dominating situation	Sustainable impact of	
	social networks and marketing automation (Study One)	developing workspace by craftsmen according to 5S (Study Two)
Extremes of politics/war	Positive	Negative
Market	Negative	Positive
Sharing Economy	**Positive**	**Positive**

In Study One, the results indicated a positive impact of politics on decision making, suggesting that political factors have a favourable influence. On the other hand, Study Two showed a negative impact of politics, indicating that political factors have an adverse effect on decision making. Therefore, we can conclude that the impact of politics on decision making is inconclusive based on the two studies.

Regarding the market, Study One revealed a negative impact, implying that market factors have an unfavourable influence on decision making. Conversely, Study Two demonstrated a positive impact of the market, suggesting that market factors have a beneficial effect on decision making. Thus, there is a conflicting relationship between the market and decision making based on the two studies.

Both Study One and Two are developing a sharing economy. And vice versa, there is a consistent finding that the sharing economy stimulates parallel development of information sharing and workspace rationalisation according to the two studies.

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