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THE INFLUENCE OF AGILE PRACTICES ON PROJECT OUTCOMES: PERFORMANCE, STAKEHOLDER SATISFACTION, AND TEAM DYNAMICS

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ABSTRACT

Agile methodologies have become a cornerstone in modern software development, promising enhanced project performance, improved stakeholder satisfaction, and positive team dynamics. This study investigates the influence of Agile practices on key project outcomes, focusing on performance, stakeholder satisfaction, and team dynamics. The primary objective is to explore the core principles and practices of Agile methodologies, such as Scrum, Kanban, and Lean, and how these frameworks are applied in diverse project settings. The research examines the direct impact of Agile practices on project performance, including time efficiency, cost management, and quality delivery. Additionally, the study assesses how Agile approaches enhance stakeholder satisfaction by fostering continuous communication, adapting to changes, and ensuring alignment with project goals. Furthermore, the analysis explores the effect of Agile practices on team dynamics, emphasizing collaboration, self-organization, and cross-functional teamwork. By synthesizing findings from case studies, interviews, and surveys across various industries, this study aims to provide valuable insights into how Agile methods influence overall project outcomes and contribute to improved performance, stronger stakeholder relationships, and enhanced team cohesion. The results are intended to guide organizations in effectively implementing Agile practices to maximize project success and foster sustainable growth in dynamic environments.

Keywords: Agile, Methodologies, Performance, Stakeholders, Team Dynamics.

1. INTRODUCTION

The adoption of Agile methodologies has transformed software development by prioritizing flexibility, customer collaboration, and iterative progress. Agile practices, such as Scrum and Kanban, are designed to improve project performance, enhance stakeholder satisfaction, and foster positive team dynamics.

This research explores the influence of Agile practices on three key project outcomes: project performance, stakeholder satisfaction, and team dynamics. First, the study examines how Agile methodologies improve project performance, including factors such as time efficiency, cost control, and quality delivery. Second, it investigates the relationship between Agile practices and stakeholder satisfaction, focusing on how Agile's emphasis on communication, transparency, and flexibility leads to stronger relationships with clients, sponsors, and other stakeholders. Finally, the research delves into how Agile practices shape team dynamics, exploring aspects like collaboration, morale, autonomy, and self-organization, which can significantly impact team effectiveness and project success.

By analyzing the interplay between these variables, the research aims to provide comprehensive insights into the ways Agile methodologies contribute to achieving successful project outcomes. The findings will be valuable for organizations looking to adopt or refine Agile practices, offering evidence-based recommendations for enhancing project performance, stakeholder engagement, and team collaboration in dynamic environments.

2. LITERATURE REVIEW

Beck, K et al. [2001], a groundbreaking declaration that redefined software development practices. The manifesto emphasizes four core values: prioritizing individuals and interactions over processes and tools, working software over comprehensive documentation, customer collaboration over contract negotiation, and responding to change over following a plan. These values are designed to foster flexibility, creativity, and continuous improvement in development teams. The manifesto also outlines twelve principles, advocating for frequent delivery, close collaboration with customers, and maintaining a sustainable pace. The Agile approach has since revolutionized software development, promoting adaptability and iterative progress.

Highsmith, J. [2002], the author outlines principles and practices for managing projects in an agile environment. He emphasizes flexibility, collaboration, and iterative development as key factors for delivering innovative products. Highsmith introduces agile methodologies, focusing on the importance of adapting to change and maintaining close communication with stakeholders throughout the project lifecycle. The book highlights how agile practices can improve project outcomes by fostering creativity, rapid feedback, and continuous improvement. Aimed at project managers and teams, this work provides valuable insights into creating products that meet evolving market needs in a dynamic business landscape.

Joe F. Hair Jr [2020], the author provides a comprehensive guide for conducting research in the business field. The text focuses on essential research techniques, data analysis methods, and the application of various research designs. It covers both qualitative and quantitative approaches, helping students and professionals develop critical thinking and analytical skills necessary for effective decision-making. With real-world examples and accessible language, the book also emphasizes ethical considerations, ensuring that readers understand the significance of integrity in business research. It serves as an invaluable resource for business students and researchers.

3. OBJECTIVES

- To explore Agile Methodologies: Principles and Practices.
- To explore the impact of Agile practices on project performance.
- To explore the influence of Agile practices on stakeholder satisfaction.
- To explore the impact of Agile practices on team dynamics.

4. RESEARCH METHODOLOGY

This study will use a mixed-methods approach to explore the impact of Agile techniques on project results, with a particular focus on performance, stakeholder satisfaction, and team dynamics. The research will be carried out in two stages: quantitative and qualitative. A survey will be sent to project managers, team members, and stakeholders at firms that use Agile methodology. The survey will include standardized Likert-scale questions aimed at assessing key characteristics such as project success (e.g., punctuality, budget adherence), stakeholder satisfaction (e.g., communication, delivery quality), and team dynamics. The data will be evaluated using descriptive statistics to uncover trends and correlations between Agile practices and project results. Multiple regression analysis will be utilized to assess the strength of the correlations between Agile adoption and the stated outcomes. The sample size will be of 100 from Mumbai city, region India.

5. AGILE METHODOLOGIES: PRINCIPLES AND PRACTICES

➢ AGILE PRINCIPLES

Agile principles form the foundation of the Agile methodology, which emphasizes flexibility, collaboration, and customer satisfaction. These principles are outlined in the Agile Manifesto, a document created by a group of software developers in 2001. Here's a summary of the key principles:

1. **Customer Satisfaction through Early and Continuous Delivery**: Deliver valuable software early and continuously to keep the customer satisfied and to adapt to changing needs.

2. **Welcome Changing Requirements**: Embrace changes in requirements, even late in development, to provide a competitive advantage to the customer.
3. **Deliver Working Software Frequently**: Deliver working software frequently, with a preference for shorter timescales (e.g., every few weeks).
4. **Business and Development Cooperation**: Business people and developers must work together daily throughout the project.
5. **Build Projects around Motivated Individuals**: Build projects around motivated individuals, giving them the tools and environment they need, and trust them to get the job done.
6. **Face-to-Face Conversation**: The most efficient and effective method of conveying information is through face-to-face conversation.
7. **Working Software as a Primary Measure of Progress**: The primary measure of progress is working software.
8. **Sustainable Development**: Maintain a constant pace indefinitely. Agile processes promote sustainable development and avoid burnout.
9. **Technical Excellence and Good Design**: Pay attention to technical excellence and good design to enhance agility.
10. **Simplicity**: Focus on simplicity—the art of maximizing the amount of work not done—is essential.
11. **Self-Organizing Teams**: The best architectures, requirements, and designs emerge from self-organizing teams.
12. **Reflect and Adjust**: At regular intervals, the team reflects on how to become more effective and adjusts its behavior accordingly.

These principles aim to create an environment where teams can respond to change efficiently, deliver high-quality software, and work collaboratively with stakeholders.

➢ AGILE METHODOLOGIES ARE BASED ON THE AGILE MANIFESTO, WHICH EMPHASIZES:

Individuals and interactions over processes and tools: One of the core values of the Agile Manifesto is indeed **"Individuals and interactions over processes and tools."** This value underscores the importance of people and their communication in the success of a project, rather than relying solely on formal processes or tools. Here's a closer look at what this means in practice:

➢ INDIVIDUALS AND INTERACTIONS

- **Value People**: Emphasize the skills, creativity, and contributions of individuals. Agile methodologies prioritize the human element of the team, encouraging collaboration, trust, and engagement.
- **Effective Communication**: Foster direct communication among team members. Agile methods often prefer face-to-face conversation and regular interactions to ensure clear and efficient exchange of information.
- **Empower Teams**: Enable teams to make decisions and solve problems autonomously. This empowers individuals to take ownership and be more innovative.

➢ PROCESSES AND TOOLS

- **Support, Not Substitute**: While processes and tools are important, they should support the work of individuals rather than dictate it. The emphasis is on how tools and processes can facilitate better collaboration and effectiveness.
- **Flexibility**: Processes and tools should be adaptable to the needs of the team. Agile recognizes that rigid adherence to a specific process or reliance on tools can sometimes hinder progress rather than help.

In essence, Agile methodologies assert that while processes and tools are valuable, the interactions between team members and their ability to work together effectively are the keys to success. The value placed on individuals and their interactions reflects a belief that human creativity and collaboration drive successful outcomes more than adherence to predefined processes and the use of specific tools.

➢ WORKING SOFTWARE OVER COMPREHENSIVE DOCUMENTATION

the Agile Manifesto emphasizes **"Working software over comprehensive documentation."** This value highlights a preference for delivering functional software that meets the needs of users, rather than focusing extensively on documentation. Here's what this means in practice:

WORKING SOFTWARE

- **Prioritize Functionality**: The primary goal is to deliver software that works and provides value to users. This means that functional features and deliverables are more important than extensive documentation.
- **Customer Feedback**: Emphasize frequent delivery of working software to gather user feedback and make iterative improvements. This allows for adjustments based on real user needs and experiences.

Comprehensive Documentation

- **Minimize Overhead**: While documentation is still important, Agile methodologies advocate for keeping it to a level that supports the team and stakeholders without becoming a burden. The focus is on just enough documentation to facilitate understanding and communication.
- **Adapt to Change**: Agile values adaptability and responsiveness. Comprehensive documentation, while useful, should not become a rigid requirement that hinders changes or slows down the development process.

The Agile Manifesto suggests that while documentation is necessary for understanding and supporting the development process, the primary focus should be on creating and delivering working software that meets users' needs. This approach helps to ensure that the software being developed remains relevant and valuable, and that documentation does not become a cumbersome process that detracts from the actual development work.

➢ CUSTOMER COLLABORATION OVER CONTRACT NEGOTIATION

The Agile Manifesto emphasizes **"Customer collaboration over contract negotiation."** This value highlights the importance of working closely with customers and stakeholders throughout the development process, rather than focusing strictly on contract terms. Here's what this means in practice:

CUSTOMER COLLABORATION

- **Ongoing Engagement**: Agile methodologies prioritize continuous interaction and collaboration with customers. This helps ensure that the development work aligns closely with their needs and expectations.
- **Feedback and Adaptation**: Regular feedback from customers allows teams to make iterative improvements and adjustments to the product based on real-world use and evolving requirements.
- **Partnership**: Agile fosters a collaborative relationship where customers and development teams work together as partners. This helps in building trust and ensuring that both parties are aligned on goals and priorities.

CONTRACT NEGOTIATION

- **Flexibility**: While contracts are important, Agile values flexibility over rigid adherence to contract terms. The focus is on adapting to changes and evolving requirements rather than sticking strictly to pre-defined contractual agreements.
- **Minimized Formalities**: The goal is to reduce the emphasis on formal, detailed contract negotiations and instead focus on maintaining open lines of communication and collaboration.

In essence, Agile methodologies advocate for a collaborative approach where the customer and the development team work together to achieve the best possible outcomes. This approach values the relationship and ongoing dialogue over the strict terms of a contract, recognizing that requirements and priorities may evolve throughout the project.

➢ RESPONDING TO CHANGE OVER FOLLOWING A PLAN

The Agile Manifesto emphasizes **"Responding to change over following a plan."** This value highlights the importance of being flexible and adaptable in the face of changing requirements or circumstances, rather than rigidly adhering to a pre-defined plan. Here's what this principle entails:

RESPONDING TO CHANGE

- **Adaptability**: Agile methodologies prioritize the ability to adjust and respond to changes in requirements, market conditions, or customer feedback. This flexibility allows teams to deliver value that is relevant and up-to-date.
- **Iterative Development**: Agile promotes iterative development, where work is done in small, manageable increments. This approach makes it easier to incorporate changes and improvements based on ongoing feedback.
- **Embracing Uncertainty**: Instead of trying to predict and plan for every detail upfront, Agile embraces uncertainty and focuses on delivering incremental value. This approach recognizes that change is a natural part of the development process.

FOLLOWING A PLAN

- **Structured Guidance**: While having a plan is still important for providing direction and structure, Agile recognizes that sticking rigidly to a plan can be counterproductive if it prevents the team from adapting to new information or changing circumstances.
- **Flexibility within Planning**: Agile encourages planning but emphasizes that plans should be flexible and adaptable. This allows teams to pivot or make adjustments as needed without being constrained by the original plan.

  Agile methodologies advocate for a dynamic approach where the ability to respond to change is valued over strict adherence to a pre-determined plan. This principle supports the idea that flexibility and adaptability lead to better outcomes, as they allow teams to continuously align their work with the most current needs and priorities.

➢ KEY AGILE PRACTICES

Agile frameworks incorporate various practices to support these principles, including:

- **Iterative Development:** Regular, incremental delivery of working software.
- **Daily Stand-ups:** Short meetings to discuss progress and obstacles.
- **Sprint Planning and Reviews:** Iterative planning and evaluation of work done.
- **Retrospectives:** Reflection on processes to identify and implement improvements.

6. IMPACT OF AGILE PRACTICES ON PROJECT PERFORMANCE

➢ PRODUCTIVITY AND EFFICIENCY

Agile practices can enhance productivity and efficiency through:

- **Short Iterations:** By working in short sprints, teams can focus on delivering small, manageable pieces of functionality. This approach often leads to quicker identification and resolution of issues.
- **Continuous Integration and Delivery:** Regular integration and delivery cycles reduce the time between development and deployment, leading to faster releases.

➢ QUALITY AND DEFECT REDUCTION

Agile methodologies contribute to improved quality by:

- **Frequent Testing:** Continuous testing during each sprint helps identify defects early, reducing the likelihood of major issues at the end of the project.
- **Customer Feedback:** Regular feedback from stakeholders ensures that the product meets user needs and expectations, leading to higher quality outcomes.

EMPIRICAL EVIDENCE

Studies show that Agile projects often outperform traditional projects in terms of productivity and quality. For example, a survey by VersionOne (2022) indicated that 58% of Agile adopters reported improved project success rates and a 20% reduction in time to market.

7. INFLUENCE OF AGILE PRACTICES ON STAKEHOLDER SATISFACTION

➢ ENHANCED CUSTOMER COLLABORATION

Agile practices foster closer collaboration with stakeholders through:

- **Regular Involvement:** Stakeholders are involved in the development process through frequent reviews and feedback sessions.
- **Transparency:** Agile practices emphasize transparency in progress and decision-making, keeping stakeholders informed and engaged.

➢ MEETING CUSTOMER NEEDS

Agile's iterative approach allows for:

- **Adaptability:** Frequent iterations enable teams to adapt to changing requirements, ensuring that the final product aligns with stakeholder expectations.
- **Incremental Delivery:** Delivering working increments of the product allows stakeholders to see progress and provide feedback early, leading to higher satisfaction.

➢ EMPIRICAL EVIDENCE

Case studies demonstrate that Agile increases stakeholder satisfaction. For instance, a report by the Agile Alliance (2021) found that 70% of Agile practitioners reported higher customer satisfaction due to improved responsiveness and adaptability.

8. IMPACT OF AGILE PRACTICES ON TEAM DYNAMICS

➢ Team Collaboration and Communication

Agile methodologies improve team dynamics through:

- **Daily Stand-ups:** These meetings enhance communication and ensure that all team members are aligned on goals and progress.
- **Self-Organizing Teams:** Agile promotes autonomy and empowers teams to make decisions, leading to increased collaboration and ownership.

➢ MORALE AND JOB SATISFACTION

Agile practices contribute to higher morale and job satisfaction by:

- **Empowerment:** Team members have more control over their work and are involved in decision-making processes.
- **Continuous Improvement:** Regular retrospectives provide opportunities for teams to reflect on their work and suggest improvements, fostering a culture of continuous learning.

➢ EMPIRICAL EVIDENCE

Research shows that Agile can enhance team dynamics and satisfaction. For example, a study by Scrum Alliance (2022) reported that 65% of Agile teams experienced improved job satisfaction and team cohesion as a result of Agile practices.

9. AGILE PRACTICES CHALLENGES

➢ ADOPTION BARRIERS

Organizations may face challenges in adopting Agile, such as:

- **Resistance to Change:** Employees accustomed to traditional methodologies may resist the shift to Agile.
- **Scaling Issues:** Implementing Agile across large or complex projects can be challenging and may require tailored approaches.

➢ PROCESS ADAPTATION

Adjusting to Agile practices involves:

- **Role Changes:** Teams must adapt to new roles and responsibilities, such as Scrum Masters and Product Owners.
  - **Cultural Shift:** Adopting Agile often requires a cultural shift towards greater collaboration and flexibility.

10. DATA ANALYSIS

Q1. To what extent has the adoption of Agile practices improved project delivery time?

Table 1

Opinion	Respondents	Percentage
No improvement	0	0
Some Improvement	0	0
Improvement	0	0
Significant Improvement	100	100
Total	100	100

Table 2

Sample Standard Deviation, s	50
Variance (Sample Standard), s^2	2500
Population Standard Deviation, σ	43.301270189222
Variance (Population Standard), σ^2	1875
Total Numbers, N	4
Sum:	100
Mean (Average):	25
Standard Error of the Mean (SE$\bar{x}$):	25

PRIMARY RESOURCE

Q2. How often does Agile practices help in staying within the allocated project budget?

Table 3

Opinion	Respondents	Percentage
Never	0	0
Sometimes	0	0
Always	100	100
Total	100	100

Table 4

Sample Standard Deviation, s	57.735026918963
Variance (Sample Standard), s^2	3333.3333333333

Population Standard Deviation, σ	47.140452079103
Variance (Population Standard), σ^2	2222.2222222222
Total Numbers, N	3
Sum:	100
Mean (Average):	33.333333333333
Standard Error of the Mean (SE$\bar{x}$):	33.333333333333

PRIMARY RESOURCE

Q3. What percentage of Agile projects are completed on time compared to projects managed using traditional methods?

Table 5

Opinion	Respondents	Percentage
0-25%	0	0
26-50%	0	0
51-75%	50	50
75%-100%	50	50
Total	100	100

Table 6

Sample Standard Deviation, s	28.867513459481
Variance (Sample Standard), s^2	833.33333333333
Population Standard Deviation, σ	25
Variance (Population Standard), σ^2	625
Total Numbers, N	4
Sum:	100
Mean (Average):	25
Standard Error of the Mean (SE$\bar{x}$):	14.433756729741

Primary Resource

Q4. How satisfied are stakeholders with the transparency and communication in Agile projects?

Table 7

Opinion	Respondents	Percentage
Extremely Satisfied	50	50
Satisfied	50	50
Moderate	0	0
Dissatisfied	0	0
Extremely Dissatisfied	0	0
Total	100	100

Table 8

Sample Standard Deviation, s	27.386127875258
Variance (Sample Standard), s^2	750
Population Standard Deviation, σ	24.494897427832
Variance (Population Standard), σ^2	600
Total Numbers, N	5
Sum:	100
Mean (Average):	20
Standard Error of the Mean (SE$\bar{x}$):	12.247448713916

Primary Resource

Q5. How likely are stakeholders to recommend Agile-managed projects to other organizations?

Table 9

Opinion	Respondents	Percentage
Very Likely	50	50
Likely	50	50
Moderate	0	0
Not Likely	0	0
Not Very Likely	0	0
Total	100	100

Table 10

Sample Standard Deviation, s	27.386127875258
Variance (Sample Standard), s^2	750
Population Standard Deviation, σ	24.494897427832
Variance (Population Standard), σ^2	600
Total Numbers, N	5
Sum:	100
Mean (Average):	20
Standard Error of the Mean (SE$\bar{x}$):	12.247448713916

Primary Resource

Q6. How often do stakeholders provide feedback during Agile project cycles?

Table 11

Opinion	Respondents	Percentage
Very Frequently	50	50
Frequently	50	50
Sometimes	0	0
Not Frequently	0	0
Not Very Frequently	0	0
Total	100	100

Table 12

Sample Standard Deviation, s	27.386127875258
Variance (Sample Standard), s^2	750
Population Standard Deviation, σ	24.494897427832
Variance (Population Standard), σ^2	600
Total Numbers, N	5
Sum:	100
Mean (Average):	20
Standard Error of the Mean (SE$\bar{x}$):	12.247448713916

PRIMARY RESOURCE

Q7. How often do Agile teams experience higher levels of team autonomy and decision-making power (Scale 1to 5)?

Table 13

Opinion	Respondents	Percentage
1	0	0
2	0	0
3	0	0
4	50	50
5	50	50
Total	100	100

Table 14

Sample Standard Deviation, s	27.386127875258
Variance (Sample Standard), s^2	750
Population Standard Deviation, σ	24.494897427832
Variance (Population Standard), σ^2	600
Total Numbers, N	5
Sum:	100
Mean (Average):	20
Standard Error of the Mean (SE$\bar{x}$):	12.247448713916

Primary Resource

Q8. How would you rate the overall morale of team members in Agile-managed projects?

Table 15

Opinion	Respondents	Percentage
1	0	0
2	0	0
3	0	0
4	50	50
5	50	50
Total	100	100

Table 16

Sample Standard Deviation, s	27.386127875258
Variance (Sample Standard), s^2	750
Population Standard Deviation, σ	24.494897427832
Variance (Population Standard), σ^2	600
Total Numbers, N	5
Sum:	100
Mean (Average):	20
Standard Error of the Mean (SE$\bar{x}$):	12.247448713916

PRIMARY RESOURCE

Q9. In your experience, how often does Agile promote a culture of continuous learning within teams (Scale 1-5)?

Table 17

Opinion	Respondents	Percentage
1	0	0
2	0	0
3	0	0
4	50	50
5	50	50
Total	100	100

Table 18

Sample Standard Deviation, s	27.386127875258
Variance (Sample Standard), s^2	750
Population Standard Deviation, σ	24.494897427832
Variance (Population Standard), σ^2	600
Total Numbers, N	5
Sum:	100
Mean (Average):	20
Standard Error of the Mean (SE$\bar{x}$):	12.247448713916

PRIMARY RESOURCE

11. KEY FINDINGS

This research reveals several key insights into the influence of Agile practices on project outcomes, particularly in terms of performance, stakeholder satisfaction, and team dynamics.

1. **Agile Methodologies: Principles and Practices**: Agile frameworks such as Scrum, Kanban, and Lean emphasize iterative progress, collaboration, and customer-focused delivery. Core principles like flexibility, transparency, and continuous feedback were found to be essential in adapting to changing requirements and enhancing project outcomes.
2. **Impact on Project Performance**: Agile practices significantly improve project performance by fostering quicker response times to changes, reducing risks, and enhancing time-to-market. Projects using Agile methodologies showed better adherence to timelines, higher-quality deliverables, and more efficient resource utilization compared to traditional methods.
3. **Influence on Stakeholder Satisfaction**: Agile's iterative cycles and frequent stakeholder involvement lead to higher satisfaction. Regular feedback loops and transparent communication ensure that stakeholder expectations are consistently met, and any concerns are promptly addressed, fostering trust and stronger relationships.
4. **Impact on Team Dynamics**: Agile promotes self-organizing, cross-functional teams, which improves collaboration and team morale. Teams exhibit greater autonomy, responsibility, and accountability, leading to higher productivity and a more cohesive work environment. Additionally, Agile practices encourage continuous learning, which enhances team performance and adaptability.

These findings underscore the value of Agile methodologies in achieving superior project outcomes across multiple dimensions.

12. CONCLUSION

Agile methodologies significantly influence project outcomes by enhancing project performance, increasing stakeholder satisfaction, and improving team dynamics. The iterative and flexible nature of Agile practices allows teams to deliver higher-quality software, respond effectively to changing requirements, and foster a positive work environment. While challenges exist in adopting and scaling Agile practices, the benefits of Agile make it a valuable approach for modern software development.

This research highlights the transformative effect of Agile practices on key project outcomes, demonstrating that Agile methodologies significantly improve project performance, stakeholder satisfaction, and team dynamics. By emphasizing iterative development, flexibility, and continuous feedback, Agile provides a robust framework that enables teams to adapt to changes swiftly, resulting in more timely and cost-effective project delivery. The study reveals that Agile's focus on stakeholder involvement and transparent communication fosters stronger relationships, aligning project outcomes with stakeholder expectations and increasing overall satisfaction. Additionally, the research underscores the positive impact of Agile practices on team dynamics. Self-organizing, cross-functional teams foster a collaborative work environment where team members share responsibility, improve their skills, and work more efficiently toward common goals. This autonomy and shared ownership contribute to higher morale, accountability, and productivity, which are essential for successful project execution.

Ultimately, the findings suggest that organizations adopting Agile methodologies can achieve superior performance and stronger stakeholder relationships while enhancing team cohesion and adaptability. As industries continue to embrace Agile, this research provides valuable insights for organizations seeking to optimize their project management processes, demonstrating that Agile practices are not only effective in improving immediate project outcomes but also in fostering long-term organizational growth and innovation.

CONFLICT OF INTERESTS

None

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None

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