# Balancing Innovation and Identity: Operationalizing AI Ethics Through Co-Designed Checklists for SMEs

Type 2

In Vino VeritAI


## Abstract

The adoption of AI presents significant challenges for Small and Medium Enterprises rooted in traditional craftsmanship, such as the wine industry. While general guidelines for responsible AI exist, translating them into practical daily operations remains difficult. We try to solve this problem by conducting a mixed-methods, iterative co-design process, combining quantitative data from a survey of 122 practitioners with inputs from in-depth interviews. Crucially, these interviews were structured around two initial draft checklists, a general one and one specified for a wine industry, to gather direct industry feedback. Through this approach, we identified key desiderata and critical concerns regarding the devaluation of human skills. Thanks to our findings we were able to shape the checklist to make it as practical as possible.



**Keywords**

Artificial Intelligence; AI Adoption; SMEs; Co-design; Human-centered AI; Wine Industry; Ethical AI; Socio-technical Systems

**CCS Concepts**

- **Human-centered computing** → Empirical studies in HCI
- **Computing methodologies** → Artificial intelligence
- **Applied computing** → Enterprise computing
- **Social and professional topics** → Socio-technical system


## 1 Introduction

Artificial Intelligence is increasingly transforming organizational practices across various sectors by automating decision-making and optimizing operational efficiency. Currently, existing AI governance frameworks and ethics guidelines primarily focus on compliance and risk mitigation after AI has been implemented. What they frequently lack is practical pre-deployment guidance to assist enterprises in determining whether AI should be implemented in the first place and under what particular circumstances. To address this gap, our previous scoping review [1] provided a crucial theoretical foundation. By analyzing 21 sources, we successfully identified four fundamental dimensions of Contextual Integrity in AI adoption: Roles and Competencies, Activities and Operational Workflow, Norms and Risk Management, and Values and Corporate Responsibility. These dimensions systematically mapped how AI impacts organizational structure and ethical considerations. Crucially, this study underscores how the adoption of AI in SMEs is highly complex, particularly in traditional sectors such as viticulture, where human knowledge and artisanal identity are crucial. Building on this, the present study adopts an iterative co-design approach—combining data from 122 survey respondents and in-depth interviews—to translate these theoretical dimensions into a comprehensive, practical AI adoption checklist framework.

## 2 Related Work

The adoption of AI in organizational environments has been extensively studied, indicating that while it can enhance organizational capabilities, it simultaneously introduces complex socio-technical challenges. Overall, existing research suggests that AI can boost efficiency and support decision-making, but its integration into traditional SMEs faces specific barriers that do not typically emerge in larger or highly digitized enterprises [1]. Regarding Roles and Com-

petencies, the literature demonstrates that AI reshapes professional duties rather than simply eliminating human effort. Consequently, organizations increasingly require hybrid solutions and continuous human supervision [5]. This shift often triggers concerns regarding a lack of trust, emerging skill gaps, and ambiguity in how responsibility is distributed among the involved actors. In terms of Activities and Workflows, studies suggest that AI can significantly streamline forecasting, logistics, and resource management. However, integrating these systems into established routines often disrupts traditional workflows and triggers organizational resistance [2][6], creating a temporary misalignment between technological systems and human processes. Meanwhile, scholarship on Norms and Risk Management focuses heavily on transparency, accountability, and trust as core requirements. AI tools can raise significant concerns tied to surveillance, decision opacity, and governance. As a result, organizations require clear and enforceable accountability structures. [4][6] Finally, research on Values and Corporate Responsibility underscores the tensions between technological efficiency and artisanal identity. In traditional sectors, adopting AI is not merely a technical choice because it must align with sustainability, authenticity, and stakeholder expectations [3][7]. Without this alignment, the technology risks undermining the core identity of the enterprise. Taken together, AI adoption is increasingly characterized as a socio-technical transformation rather than a simple technological upgrade. Nevertheless, there remains a shortage of practical tools capable of translating these theoretical ideas into everyday organizational decision-making. This study addresses that specific gap through a pragmatic lens.

# 3 Methodology

To translate the theoretical dimensions identified in our scoping review [1] into practical, operational AI adoption checklists, we adopted a mixed-methods, iterative co-design approach. This methodology anchors the conceptual integrity of the framework within real-world organizational settings, systematically bridging empirical data with design requirements across four core socio-technical pillars: Roles (the specific actors interacting with or affected by the AI system), Activities (the operational practices and workflows modified, augmented, or automated by the technology), Norms (the technical, legal, and procedural constraints governing system deployment, e.g., GDPR compliance and data validation protocols), and Values (the core principles, such as trust, transparency, and the preservation of artisanal identity, that the organization aims to safeguard).

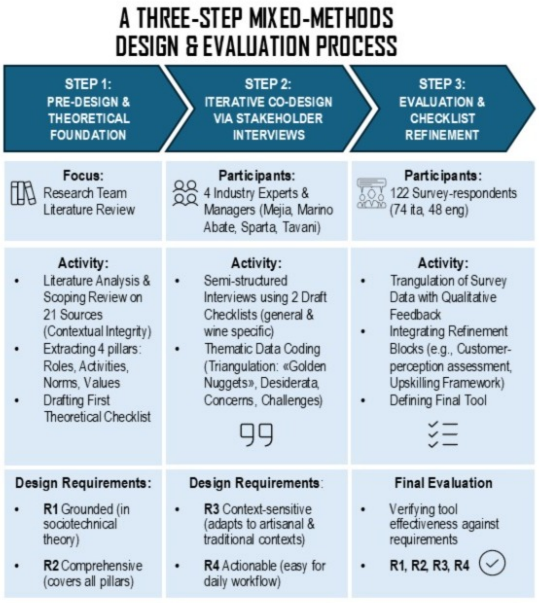


Figure 1: The three-step mixed-methods co-design and evaluation process, mapping theoretical foundation to qualitative interviews and quantitative survey validation

## 3.1 Data Collection

Data was gathered through two complementary methods designed to capture both a broad baseline of industry perceptions and deeper qualitative contextual insights:

- Quantitative Survey: We deployed one online survey (Google Forms), provided in two language versions (Italian and English), collecting N=122 valid responses (74 Italian, 48 English). The detailed breakdown of the questionnaire items, the live access links, and the specific convenience and snowball sampling strategy (encompassing professional, student, and peer-to-peer communication networks) are detailed in Appendix H.

- Qualitative Interviews: To deepen these quantitative insights, we conducted four semi-structured interviews structured around two initial draft checklists (a general SME version and a specialized viticulture version). The sessions were conducted remotely, lasting approximately 30 minutes each. Participants were purposefully selected to represent key socio-technical stakeholders within traditional and evolving sectors:

1. Patricia Mejia, Export Manager for Firriato, one of the most prestigious and internationally renowned wineries in Sicily, representing the perspective of large-scale traditional wine commerce;
2. Nicola Marino Abate, Winemaker, Enologist, and Owner of Cantina Marino Abate, providing critical perspective of a territory-rooted producer balancing heritage craftsmanship with technological innovative agronomic practices;
3. Andrea Sparta, Entrepreneur and Founder of a boutique manufacturing firm specialized in innovative acrylic glass (plexiglass) solutions, contributing an external stakeholder perspective on cross-sector process transformation and technology scaling;
4. Antonio Tavani, Corporate Director, Entrepreneur, and Owner of Hotel del Camerlengo and Residenza Camerlengo (an assisted living facility for the elderly), bridging the perspective of technological readiness between the traditional hospitality and healthcare sectors.

## 3.2 Data Analysis

The collected data was analyzed using a triangulated approach to ensure methodological robustness and traceability:

- Quantitative Analysis: Survey data was processed using descriptive statistics to identify high-level trends, consensus areas, and baseline expectations regarding automation preferences and trust in AI systems.
- Qualitative Thematic Analysis: Interview transcripts and open-ended survey responses were thematically coded. Insights were categorized into Desiderata (user requirements), Concerns (user fears), and Organizational Challenges (implementation barriers).

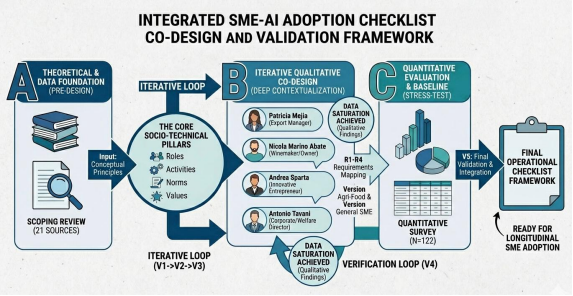


Figure 2: Integrated SME-AI Adoption Checklist Co-Design and Validation Framework. This diagram illustrates the research workflow, mapping the transition from the theoretical scoping review (Phase A) through qualitative expert co-design and data saturation (Phase B), to quantitative survey triangulation with N=122 responses (Phase C), resulting in the final operational checklist framework.

# 4 Findings

The empirical data collected through this iterative process yielded critical insights into how traditional sectors perceive AI integration. These findings are structured below around the three core dimensions emerged from our thematic analysis.

## 4.1 Desiderata

The analysis shows a strong consensus that AI should work strictly as an augmenting force, not as a full human replacement [2]. Quantitative survey data (N=122) indicates that 68% of participants desire AI primarily to automate repetitive tasks and "provide data for better decision-making" [3][4]. Patricia Mejia (Export Manager for Firriato) also called out a concrete need for AI to handle "statistics, sales forecasts, and logistics"—areas where data complexity exceeds human processing speed [5]. That picture puts AI in the role of a productivity multiplier. Andrea Sparta (Entrepreneur) noted that while AI replaces certain manual tasks, it ultimately drives professional evolution rather than destruction: "I compare it to tractors: when they arrived, many manual agricultural jobs disappeared, but society evolved and created new opportunities. [...] I don't see a simple elimination of work—I see a transformation" [2]. When focusing specifically on winemaking opera-

tions, Nicola Marino Abate (Winemaker and CEO of Marino Abate) enthusiastically validated the use of AI and drones for vineyard management, highlighting their crucial role in environmental sustainability: "Excellent—definitely the future. They would help monitor ripening and vine diseases, and improve treatments, especially for organic production. An advantage is that drones can operate even after rain, when disease risk is higher, improving prevention" [6]. However, when evaluating AI's impact on human Roles, practitioners demanded to maintain ultimate authority. This is overwhelmingly supported by our survey, where a staggering 90% of respondents asserted that a human (whether an expert operator, a manager, or a technical team) must always have the final say in important decisions. This is treated as a moral imperative. As Sparta effectively summarized: "The final decision always belongs to humans" [2].

- **Checklist Refinement**: These findings prompted us to refine the Activities and Roles sections of the checklist, moving away from vague questions about automation toward clearer, concrete items regarding data-driven decision support and the mandatory presence of a human supervisor.

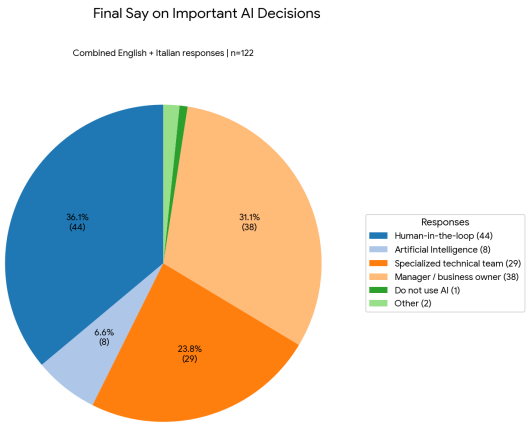


Figure 3: Distribution of respondents' preferences (N=122) regarding final authority on critical AI-supported decisions, demonstrating a is higher than 90% consensus for mandatory human oversight.

## 4.2 Concerns

Regarding the Roles pillar, many workers worry that AI integration will slowly erode their professional autonomy and lead to labor replacement [4][5]. Mejia confessed feeling exposed, stating she is "afraid of no longer being able to manage and control my own work" [5]. Survey respondents echo this sentiment, mentioning a "negative impact on employment" and explicitly advising managers to "Buy it to improve efficiency not to replace someone" [4]. Regarding Activities, there is a strong resistance to using AI to artificially "speed up" biological and creative processes. Marino Abate emphasized that algorithmic efficiency cannot override craftsmanship: "In winemaking, time depends on the type of wine you want to produce. If you try to speed things up excessively, you risk producing low-quality wine. We focus on quality" [6]. Similarly, Mejia stressed that while AI optimizes logistics, it cannot replace the intrinsic "artistry" and human warmth required in wine creation [5]. From a Values perspective, there is widespread concern about market perception, particularly for products whose core identity relies on history and terroir. Mejia warned about the potential clash between algorithms and the romanticized image of Italian viticulture: "I think our sector is still very tied to tradition, so I see some resistance. The wine sector, especially in Italy, is very faithful to tradition, where AI doesn't really have much space. I don't think customer feedback would be positive" [5]. Our data also reveals a persistent distrust of AI; some Italian survey respondents reminded leadership that "l'IA ragiona senza sentimenti" (AI reasons without feelings), pointing to the fear of losing authentic traditional connections [3]. Furthermore, 53% of stakeholders refuse to hand over power to "black-box" systems they cannot audit [4][6]. Examining the long-term impact on broader information ecosystems, Sparta raised a critical concern: "If no one produces new information, AI will eventually have less reliable material to rely on. It's a cycle that risks becoming self-destructive" [2]. Finally, Corporate Director Antonio Tavani (Entrepreneur) underlined that the massive "hyper-consumption of energy" tied to data centers means the overall AI footprint is "not exactly or entirely sustainable" [7].

- **Checklist Refinement**: To address these concerns, we updated the Values section of the checklist, requiring companies to conduct a "customer-perception impact assessment" be-

Table 1: Examples of Co-Design Iterations based on Stakeholder Feedback

| **Draft Guideline (V1)** | **Stakeholder Feedback (Participant ID)** | **Final Co-Designed Actionable Rule (V2)** |
|---|---|---|
| Prepare employees for collaboration with AI systems. | P1 (Export Manager): "If you introduce a complex tool without explaining how to use it, it creates stress and confusion." | Organize practical training sessions where employees practice reading AI outputs, checking confidence scores, and recognizing unreliable outputs. |
| Maintain human authority over critical decisions. | P2 (Winemaker): "Until we fully understand AI, human supervision is essential. Humans should prevent errors, so responsibility ultimately lies with them." | Require a manager or responsible professional to approve AI recommendations before they affect customers, safety, finances, or legal obligations. |
| Protect employee trust during AI adoption. | P4 (Corporate Director): "We must involve them in the data acquisition By doing so, they feel like an essential part of building the database." | Hold an internal information meeting explaining what the AI system will do, how employee data will be used, and how workers can raise concerns. |

fore implementing AI in consumer-facing processes, ensuring the brand's traditional identity remains intact.

### 4.3 Organizational Challenges

Organizational challenges can severely hinder AI adoption due to internal pushback, knowledge gaps, cultural frictions, and the overarching unease about losing human control. While psychological resistance stems from the fear of losing control [5], companies cannot simply deploy AI tools without investing in employee education. As highlighted by the survey, 56% of respondents report having only average or low familiarity with AI, and 63% express concern that the technology might devalue their human skills [3][4]. As Sparta pointed out, "if someone has little familiarity with technology or digital tools, integration can be difficult," which underscores the urgent need for upskilling [2]. Tavani noted that his company uses AI minimally because they "are not a highly digitized company" and rely heavily on direct human interaction [7]. Moreover, establishing clear Norms for accountability and trust is a complex challenge. Practitioners unanimously agreed that blindly trusting algorithmic outputs poses severe business risks. As Marino Abate explicitly warned: "Until we fully understand AI, human supervision is essential. Humans should prevent errors, so responsibility ultimately lies with them" [6]. Ultimately, the challenge for traditional wineries is not choosing between the past and the future, but successfully merging them. As Marino Abate brilliantly concluded: "Tradition is not opposed to innovation. On the contrary, tradition must evolve to survive" [6].

- **Checklist Refinement**: Consequently, the Norms section of our tool was expanded to include a mandatory "Upskilling and Accountability Framework," ensuring that employees receive adequate training before interacting with AI and that liability always rests with a designated human supervisor.

## 5 Discussion

### 5.1 Efficiency vs. Craftsmanship

Our findings demonstrate that integrating AI in traditional sectors like viticulture is not merely an IT upgrade, but a complex socio-technical challenge. While 68% of workers welcome AI to handle repetitive tasks and data-heavy logistics, a staggering 90% demand strict human-in-the-loop oversight. This

data highlight that practitioners are not rejecting technology, they are protecting their experiential knowledge and professional autonomy. For these traditional SMEs, preserving the artisanal "human touch" is just as critical for survival as optimizing productivity.

### 5.2 From Mere Compliance to Reflective Practice

The most significant contribution of this study is the creation of two practical tools: a General AI Adoption Checklist and a Specialized Viticulture Checklist. Crucially, because they were co-designed with stakeholders, these frameworks act as "value levers", they impose concrete operational rules before procurement. For example, recognizing that 56% of the workforce currently lacks AI familiarity, the checklists mandate an "Upskilling and Accountability Framework." By anchoring abstract fears to strict pre-adoption questions, the checklists actively encourage reflective, day-to-day decision-making and ensure that technological investments align with workforce realities.

### 5.3 Limitations and Future Work

While this study provides a robust foundational framework, it is not without limitations. The sample size (N=122) is geographically and culturally localized, primarily reflecting the Italian SME and viticulture context. Consequently, the cultural resistance to algorithmic decision-making and the strong emphasis on "tradition" might be more pronounced here than in other global markets. Future research should focus on longitudinal studies, deploying these checklists in naturalistic settings over several months to observe how they materially influence long-term procurement decisions and organizational workflows.

## 6 Worked Use Case

While the primary objective of this framework is the critical evaluation of the checklist's architecture, its utility extends far beyond simple decision support for managers. By analyzing its socio-technical applicability, it becomes clear that the checklist functions as a design model for developers, allowing them to translate complex organizational desiderata into concrete technical requirements. This dual-purpose nature is best demonstrated through a simulated procurement scenario, such as the integration of an AI-powered drone in precision viticulture for monitoring ripening and disease prevention.

To practically evaluate this system before purchase, the management team must answer the binding criteria of our checklist:

- **Roles Check**: Can veteran field workers interpret the drone's heat maps? Result: No. Action: The framework triggers a mandatory upskilling session prior to deployment, avoiding worker alienation.
- **Activities Check**: Does the algorithm's efficiency force an unnatural speeding of biological processes? Result: Yes, the AI suggests harvesting early based purely on weather data. Action: The human agronomist explicitly overrides the AI to respect artisanal timing.
- **Norms Check**: Who is liable if the drone misidentifies a disease? Result: Opaque black-box logic from the vendor makes liability unclear, risking crop loss. Action: The legal team drafts a responsibility matrix designating the Agronomist as the ultimate authority.

By forcing the manager to define a clear hierarchy of supervision and delineate specific roles, the framework prevents both over-reliance and underutilization, ensuring the AI acts as an augmenting force that preserves human authority. This integration of checklist criteria during the development phase proactively calibrates AI outputs to meet organizational requirements for accountability and systemic refinement. Rather than imposing a standardized, rigid model, the checklist compels organizations to evaluate AI through the lens of their unique craft, sustainability goals, and artisanal standards.

## 7 Conclusion

In conclusion, our research provides a pragmatic bridge between abstract AI ethics and the daily operational realities of traditional SMEs. We demonstrate that when technological integration is guided by participatory frameworks, organizations do not have to sacrifice their core identity to achieve modernization. Ultimately, these tools offer a blueprint for the future, proving that tradition and innovation can successfully drive each other forward.

# Appendix

## A References


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[4] Research Team. (2026). *Artificial Intelligence in Your Work: Survey on Responsible Adoption* [Raw Data / Dataset]. Survey results collected from international practitioners (N=74).

[5] Mejia, P. (2026). *Automating Wine Logistics: Tensions Between Algorithmic Efficiency and Brand Authenticity*. Semi-structured interview conducted for the "In Vino VeritAI" Project. Role: Export Manager.

[6] Marino Abate, N. (2026). *Precision Agriculture and the Evolution of Winemaking Traditions*. Semi-structured interview conducted for the "In Vino VeritAI" Project. Role: Winemaker and CEO.

[7] Tavani, A. (2026). *Assessing the Environmental Footprint and Socio-Technical Impact of AI Systems*. Semi-structured interview conducted for the "In Vino VeritAI" Project. Role: Corporate Director.


## B Draft of General AI Adoption Checklist

| **Category** | **Improved Guideline** | **Practical Example** | **Phase** | **Responsible role** |
|---|---|---|---|---|
| Roles | Maintain human oversight over critical AI-supported decisions | Managers should review important AI recommendations before using them in business decisions. | Operation | Managers / Team Leaders |
| Roles | Clearly define accountability for AI-supported outcomes | The organization should clarify who is responsible when an AI-supported decision causes an error or negative outcome. | Setup | Management / Legal Team |
| Roles | Prepare employees for collaboration with AI systems | Employees should receive basic training on how to understand AI outputs and use digital tools in their daily work. | Pre-adoption | HR / Training Team |
| Roles | Introduce new AI-related organizational roles when needed | The company may need an employee or external expert responsible for supervising AI use and supporting staff. | Deployment | Management |
| Activities | Use AI to support repetitive or data-intensive tasks | AI can support tasks such as reporting, forecasting, scheduling, inventory analysis, quality control, or customer service. | Deployment | Operations Team |

| Category | Improved Guideline | Practical Example | Phase | Responsible role |
|---|---|---|---|---|
| Activities | Preserve human involvement in high-judgment activities | Creative, ethical, relational, or sensitive decisions should remain primarily human-led. | Operation | Department Managers |
| Norms | Protect data privacy and comply with data protection policies | AI systems must not collect unnecessary employee or customer data. Organizations should understand why the AI system generated a recommendation or decision. | Acquisition / Setup | IT / Management / Legal / Compliance |
| Norms | Develop clear privacy and data protection policies | The organization should define what employee, customer, and operational data can be collected and protected. | Setup | Legal / Compliance |
| Norms | Implement ethical risk-management procedures | The organization should evaluate risks such as bias, discrimination, privacy problems, or overdependence on AI. | Pre-adoption | Risk Management Team |
| Norms | Define procedures for handling AI mistakes | The organization should have protocols for correcting inaccurate or harmful AI outputs. | Operation | Management / IT |
| Values | Align AI adoption with organizational values | AI implementation should respect fairness, responsibility, employee well-being, and service quality. | Design | Leadership |
| Values | Protect employee trust during AI adoption | AI should be presented as a support tool rather than a replacement threat. | Deployment | HR / Management |
| Values | Balance efficiency with human expertise | AI should improve productivity without eliminating professional judgment and experience. | Operation | Managers |
| Values | Use AI to support long-term organizational goals | AI systems can contribute to sustainability, inclusion, quality improvement, and competitiveness. | Strategic planning | Leadership / ESG Team |

# C Draft of Winery AI Adoption Checklist

| Category | Improved Guideline | Practical Example | Phase | Responsible role |
|---|---|---|---|---|
| Roles | Maintain human authority over critical decisions | The agronomist or winemaker should always approve AI recommendations regarding harvest timing, irrigation, or disease prevention. | Operation / Harvest | Agronomist / Winemaker |

| Category | Improved Guideline | Practical Example | Phase | Responsible role |
|---|---|---|---|---|
| Roles | Clearly define accountability for AI-supported decisions | If an AI recommendation causes crop loss or resource waste, the winery must know who is responsible for the final decision. | Setup | Management / Legal |
| Roles | Train existing employees before AI deployment | Veteran workers should learn how to interpret sensor dashboards, drone reports, and predictive systems instead of being excluded from the process. | Pre-adoption | HR/ Management |
| Roles | Position AI as a support tool rather than a replacement | AI systems should assist human expertise while preserving the authority of experienced workers. | Deployment | Management |
| Activities | Use AI to improve operational efficiency | AI can support irrigation planning, harvest forecasting, stock management, logistics, and customer service. | Deployment | Operations Team |
| Activities | Combine AI insights with physical inspection | Drone heat maps and sensor data should guide vineyard inspections, not fully replace manual evaluation. | Operation | Agronomist / IT Integrator |
| Activities | Use real-time data to improve decision-making | Weather forecasts and soil sensors can help optimize harvest timing and reduce operational waste. | Operation | Agronomist |
| Activities | Create manual fallback procedures for system failures | The winery should continue operating effectively even if AI systems malfunction or become unavailable. | Setup/ Operation | IT Team / Management |
| Norms | Require transparency and explainability from AI systems | AI tools should clearly explain why they recommend irrigation changes, pesticide use, or harvest timing decisions. | Acquisition | IT Integrator / Management |
| Norms | Establish privacy and anti-surveillance policies | Drones and monitoring systems should collect vineyard data without tracking employee behavior unnecessarily. | Pre-adoption | Management / HR |
| Norms | Define procedures for AI-related risks and mistakes | The organization should establish protocols for responding to inaccurate predictions or harmful AI outputs. | Setup | Risk Management / IT |
| Norms | Ensure ethical and responsible AI use | AI systems should be monitored regularly to avoid bias, unfair decisions, or excessive dependence on automation. | Operation | Management / Compliance |
| Values | Preserve the winery's artisanal identity | Wine tasting, blending, and final quality evaluation should remain human-centered activities. | Operation / Marketing | Winemaker |

| Category | Improved Guideline | Practical Example | Phase | Responsible role |
|---|---|---|---|---|
| Values | Align AI adoption with sustainability goals | AI systems should help reduce pesticide use, water consumption, and environmental impact. | Strategic Planning | Management / ESG Team |
| Values | Balance innovation with tradition and trust | AI adoption should improve productivity without damaging employee trust, customer confidence, or traditional winery culture. | Deployment | Leadership Team |
| Values | Communicate AI adoption transparently to customers | Customers should understand that AI supports precision agriculture while the wine remains crafted through human expertise. | Marketing | Management |

# D Final: General AI Adoption Checklist

| Category | Improved Guideline | Practical Example | Phase | Responsible role |
|---|---|---|---|---|
| Roles | Maintain human oversight over critical AI-supported decisions | Require a manager or responsible professional to approve AI recommendations before they affect customers, employees, safety, finances, or legal obligations. | Operation | Managers / Team Leaders |
| Roles | Clearly define accountability for AI-supported outcomes | Create a written responsibility matrix identifying who approves AI-supported decisions, who monitors system performance, who handles complaints, and who corrects errors. | Setup | Management / Legal Team |
| Roles | Prepare employees for collaboration with AI systems | Organize practical training sessions where employees practice reading AI outputs, checking confidence scores, recognizing unreliable outputs, and reporting unclear recommendations. | Pre-adoption | HR / Training Team |
| Roles | Introduce new AI-related organizational roles when needed | Assign an internal AI coordinator or external consultant to monitor system use, collect employee feedback, track incidents, and report issues to management every month. | Deployment | Management |

| Category | Improved Guideline | Practical Example | Phase | Responsible role |
|---|---|---|---|---|
| Activities | Use AI to support repetitive or data-intensive tasks | Start with one limited task, such as demand forecasting, appointment scheduling, inventory checks, quality-control alerts, report generation, or customer-service ticket classification, before expanding AI use. | Deployment | Operations Team |
| Activities | Preserve human involvement in high-judgment activities | Require human review for decisions involving hiring, pricing exceptions, customer or patient care, supplier selection, conflict resolution, safety, or legal responsibility. | Operation | Department Managers |
| Activities | Create fallback procedures for AI failures | Prepare a manual workflow guide explaining how employees should continue operations if the AI system is unavailable, produces errors, or loses access to data. | Setup | IT / Operations |
| Activities | Evaluate workflow integration before deployment | Run a two-week pilot test with one team to check whether the AI tool fits existing tasks, responsibilities, approval steps, and communication routines before full deployment. | Pre-adoption | Operations / IT |
| Norms | Establish transparency requirements for AI systems | Ask vendors to provide clear documentation explaining how recommendations are generated, what data is used, what the system's limits are, and when human review is required. | Acquisition | IT / Management |
| Norms | Develop clear privacy and data protection policies | Create a data collection checklist specifying which employee, customer, or operational data can be collected, stored, shared, anonymized, deleted, or excluded from AI processing. | Setup | Legal / Compliance |
| Norms | Implement ethical risk-management procedures | Establish a quarterly audit to evaluate bias, unfair outcomes, privacy risks, incorrect recommendations, and excessive dependence on automated decisions. | Pre-adoption / Operation | Risk Management Team |
| Norms | Define procedures for handling AI mistakes | Create an incident-reporting form where employees document incorrect AI outputs, affected decisions, corrective actions, responsible persons, and follow-up deadlines. | Operation | Management / IT |

| Category | Improved Guideline | Practical Example | Phase | Responsible role |
|---|---|---|---|---|
| Values | Align AI adoption with organizational values | Before implementation, hold a management review to verify whether the AI project supports fairness, service quality, responsibility, employee well-being, customer trust, and legal compliance. | Design | Leadership |
| Values | Protect employee trust during AI adoption | Hold an internal information meeting explaining what the AI system will do, what it will not do, how employee data will be used, and how workers can raise concerns. | Deployment | HR / Management |
| Values | Balance efficiency with human expertise | Use AI recommendations as decision support, but require experienced staff to validate outputs in complex, sensitive, unusual, or high-impact cases before action is taken. | Operation | Managers |
| Values | Use AI to support long-term organizational goals | Define measurable goals before adoption, such as reducing processing time by 20%, improving service accuracy, reducing waste, increasing accessibility, improving quality control, or supporting inclusion. | Strategic Planning | Leadership / ESG Team |

# E Final: Winery AI Adoption Checklist

| Pillar | Improved Guideline (From Co-Design) | Practical Example & Operational Rule | Phase | Responsible Role |
|---|---|---|---|---|
| Roles | Preserve Agronomist and Winemaker Authority | AI recommendations regarding harvest timing, irrigation, or disease prevention must be explicitly approved by the human expert before execution. [cite: 17] | Operation/ Harvest | Agronomist / Winemaker [cite: 17] |
| Roles | Upskill Veteran Agricultural Workers | Veteran field workers must be trained to read drone reports and sensor dashboards, integrating their physical experience with digital data. [cite: 17] | Pre-Adoption | HR / Management [cite: 17] |

| Pillar | Improved Guideline (From Co-Design) | Practical Example & Operational Rule | Phase | Responsible Role |
|---|---|---|---|---|
| Activities | Respect Biological and Artisanal Timing | Prevent algorithmic over-optimization: AI efficiency must not force unnatural speeding of fermentation, aging, or creative winemaking processes. [cite: 17] | Operation | Winemaker [cite: 17] |
| Activities | Combine AI Insights with Physical Inspection | Drone heat maps and predictive algorithms must guide (not replace) physical vineyard inspections to confirm disease or ripening status. [cite: 17] | Operation/ Harvest | Agronomist / Field Workers [cite: 17] |
| Norms | Define Liability for Agricultural Errors | If an AI model suggests incorrect pesticide use or irrigation leading to crop loss, the framework must identify the human supervisor responsible. [cite: 18] | Setup | Management / Legal [cite: 18] |
| Norms | Monitor Algorithms for Environmental Alignment | AI systems must be regularly audited to ensure they genuinely reduce water/pesticide consumption and meet organic production standards. [cite: 18] | Operation | Risk Management / ESG [cite: 18] |
| Values | Protect the Sensory Core of Winemaking | Wine tasting, blending, and final quality evaluation are strictly forbidden from AI automation; they remain pure human, sensory-led activities. [cite: 18] | Operation | Winemaker [cite: 18] |
| Values | Communicate Precision Agriculture Transparently | Inform customers that AI is used for sustainability (e.g., saving water), while reassuring them that the wine's "soul" remains crafted by human hands. [cite: 18] | Marketing | Management / Marketing [cite: 18] |

# F AI Adoption Framework - Interview Questions

| Roles | Activities | Norms | Values |
|---|---|---|---|
| How do you think AI could change the roles and responsibilities of people in your organization?<br><br>Which tasks should remain fully under human control, even if AI tools are available? | Which daily activities or processes in your organization could benefit most from AI support?<br><br>How are important decisions currently made in your organization: through human experience, data, technology, or a combination of these? | What rules or guidelines should be created before AI is introduced into the organization?<br><br>How important is transparency when AI systems give recommendations or make decisions? | What organizational values should guide the adoption of AI?<br><br>How can AI be introduced without reducing employee trust or motivation? |
| What new skills or competencies would employees need in order to work effectively with AI?<br><br>Who should be responsible for decisions supported or suggested by AI systems? | How could AI improve efficiency, productivity, or decision-making in your organization?<br><br>What activities should not be automated by AI, and why? | How should the organization make sure that AI is used fairly and responsibly?<br><br>What privacy or data protection concerns could appear when using AI systems? | How can the organization balance innovation and technological efficiency with human judgment and experience?<br><br>In what ways could AI support long-term goals such as sustainability, inclusion, quality, or competitiveness? |
| Do you think AI would create new roles in the organization, such as AI supervisors, data specialists, or ethics officers? | What challenges could appear when integrating AI into existing work processes? | How should the organization manage mistakes, risks, or harmful outcomes caused by AI-supported decisions? | In your opinion, what would make AI adoption successful in an organization? |

# G Winery AI Adoption Framework - Interview Questions

| A. Roles and Competencies | B. Activities and Operational Workflow | C. Norms and Risk Management | D. Values and Corporate Responsibility |
|---|---|---|---|
| Who in the winery would be responsible for making final decisions if AI gives a recommendation about harvest timing, irrigation, or disease prevention?<br><br>Do you think AI would change the role of the winemaker, agronomist, or vineyard workers? If yes, how? | Which daily activities in the winery or vineyard could be improved with AI? For example, irrigation, harvesting, inventory, logistics, or customer service.<br><br>How do you currently decide the best moment for harvesting grapes, and could AI data improve this process? | What kind of rules should be established before introducing AI into the winery?<br><br>What information would you need from an AI system in order to trust and use its recommendations in winery decisions? | How can AI be introduced without damaging the winery's traditional and artisanal identity?<br><br>Would customers react positively or negatively if they knew AI was used in the wine production process? |
| What skills would your team need to learn before using AI tools such as sensors, drones, or predictive software? | Would real-time data from soil sensors, weather forecasts, or drones be useful for managing the vineyard? Why or why not? | Who should be accountable if an AI recommendation causes a wrong decision, such as harvesting too early or wasting resources? | Should AI adoption focus mainly on profit and efficiency, or also on sustainability, quality, and social responsibility? |
| Would your employees trust AI recommendations, or would they prefer relying on personal experience and tradition?<br><br>Do you think AI should support human expertise, or could it replace some decision-making roles in the winery? | What problems do you currently face in the supply chain, such as bottle shortages, transport delays, or stock management, that AI could help solve?<br><br>Do you think AI would make the workflow faster and more efficient, or could it make the work more complicated for employees? | Would you be concerned about employee privacy if AI tools collected data in the workplace or vineyard?<br><br>How can the winery prevent AI from becoming a tool of surveillance or control over workers? | Could AI help the winery reduce water use, pesticide use, or environmental impact?<br><br>What conditions would make AI acceptable for your winery while still respecting tradition, human expertise, and customer trust? |

# H Quantitative Data Baseline and Survey Structure

## H.1 Sampling, Administration, and Links

The quantitative data was collected via a single online survey cloned in Italian and English to accommodate different target audiences. To achieve a diverse cross-section of organizational perspectives across different

age groups and sectors, we used a combination of convenience and snowball sampling, distributing the instrument through academic, professional, and social networks. The resulting sample encompasses active SME professionals, managers, and university students, thereby providing an intergenerational viewpoint on AI familiarity, operational anxieties, and automation expectations. The questionnaires used for data collection remain permanently accessible via the following live links:

- Italian Version:[https://forms.gle/NRPeyr8uXKtoSKLb7]
- English Version: [https://forms.gle/KZmvYCP3YezueQ7PA]

## H.2 Descriptive Statistics Table

This section presents a summary of the descriptive statistics extracted from the consolidated survey data, merging both the Italian and English respondent pools (Total N=122). The table below highlights the key responses regarding AI familiarity, operational expectations, and ethical concerns. These baseline metrics directly inform the quantitative claims discussed in the Findings and Discussion chapters and served as the empirical foundation for the co-designed AI Adoption Checklists.

| **Survey Question** | **Top Responses** | **Percentage** |
|---|---|---|
| What is your level of familiarity with Artificial Intelligence? (1 = None, 5 = Very High) | High (Levels 4-5)<br>Moderate (Level 3)<br>Low to None (Levels 1-2) | 43.8%<br>35.5%<br>20.7% |
| If your company introduces AI for critical decisions, who should ALWAYS have the final say? | The expert worker (Human-in-the-loop)<br>The manager or business owner<br>A specialized technical team<br>The AI System | 36.4%<br>30.6%<br>23.1%<br>6.6% |
| In your opinion, what should be the primary purpose of using AI in the workplace? | Provide data and analysis for better decisions<br>Monitor productivity to optimize time<br>Perform repetitive and boring tasks | 56.2%<br>24.0%<br>11.6% |
| What ethical risk scares you the most regarding the use of AI in the workplace? | Accountability (nobody taking responsibility)<br>Surveillance (constant algorithm monitoring)<br>Black-Box Effect (not understanding AI logic)<br>Bias (unfair/discriminatory decisions) | 36.4%<br>20.7%<br>20.7%<br>16.5% |
| If an AI system makes a serious mistake at work, who should be held responsible? | The Employer / Management who decided to use it<br>The worker supervising the AI<br>The tech company that developed the software | 37.2%<br>28.9%<br>24.8% |

| Survey Question | Top Responses | Percentage |
|---|---|---|
| How important is it that AI does not destroy the "human touch" or artisanal identity? (1 = Low, 5 = Fundamental) | Fundamental (Level 5) | 36.4% |
| | Neutral (Level 3) | 30.6% |
| | Important (Level 4) | 19.8% |
| | Low (Levels 1-2) | 13.2% |

(Note: Percentages may not sum to exactly 100% due to the exclusion of minor "Other" open-ended qualitative responses).

# I Interviews

**Ethical Considerations and Informed Consent:** All interviewees participated voluntarily and were fully informed about the study's academic scope prior to the sessions. Explicit verbal informed consent was obtained from each participant at the beginning of the interviews, granting their formal authorization to record the audio, analyze the transcripts, and include their personal identities, corporate roles, and organization names within this report and its appendices.

## I.1 Interview with Patricia Mejia

Good morning and thank you very much for your time. We are a group of university students conducting research on how Artificial Intelligence (such as drones for vineyards or soil sensors) will impact Italian wineries. We know technology can help, but we also know that wine is tradition, and there is a risk of damaging a company's artisanal identity or unnecessarily complicating the work in the vineyard. For this reason, we created this 'Checklist Draft'. It is a tool we would like to propose to managers, to be used before purchasing new technologies, to assess whether the company is ready. Now I will ask you a series of questions, and I would like you to tell me everything that comes to your mind based on your current job and experience. Be ruthless: there are no right or wrong answers. The more you criticize the document, the more you help us understand how to improve it for our research. Let's begin!

**Q:** First of all, introduce yourself: what is your name? How old are you? What do you do?

**A:** My name is Patricia Mejia, I am 47 years old, and I work as an export manager for a wine company called Firriato. Firriato is one of the most important Sicilian winery, and as export manager I am responsible for all their international trade.

**Q:** Do you use artificial intelligence in your work?

**A:** Very little.

**Q:** How do you use it?

**A:** I use it to refine some commercial offers and sometimes to check translations.

**Q:** Which daily activities in the winery or vineyard could be improved with AI? For example, irrigation, harvesting, inventory, logistics, or customer service.

**A:** In my opinion, the departments that would benefit the most from AI are logistics, shipping, and inventory management. In a large winery like Firriato, managing the warehouse, tracking shipments worldwide, and coordinating supply chains are very complex tasks. AI could optimize these processes, reducing errors and saving a significant amount of time.

**Q:** What problems do you currently face in the supply chain, such as bottle shortages, transport delays, or stock management, that AI could help solve?

**A:** Transport delays are a constant challenge, especially for international shipping. Predicting delays or finding alternative routes is difficult. AI could help us analyze global transport data in real-time to anticipate bottlenecks and optimize our distribution network.

**Q:** Do you think AI would make the workflow faster and more efficient, or could it make the work more complicated for employees?

**A:** It could certainly make the work faster and more efficient, but only if the employees are properly trained. If you introduce a complex tool without explaining how to use it, it creates stress and confusion. It must be user-friendly and well-integrated into the daily routine.

**Q:** Would you be concerned about employee privacy if AI tools collected data in the workplace or vineyard?

**A:** Privacy is a major concern. Employees should not feel monitored or controlled by a machine. If AI is used to track their movements or efficiency too closely, it destroys trust. We must establish clear boundaries to protect privacy.

**Q:** How can the winery prevent AI from becoming a tool of surveillance or control over workers?

**A:** By focusing AI on processes rather than individuals. For example, AI should optimize logistics or field data without tracking employee behavior unnecessarily. Transparency is key: workers must know exactly what data is being collected and why.

**Q:** Who should be accountable if an AI recommendation causes a wrong decision, such as harvesting too early or wasting resources?

**A:** I think humans remain responsible. It is humans who decide to use these tools, so the responsibility ultimately lies with them.

**Q:** Would customers react positively or negatively if they knew AI was used in the winery? Could it be a marketing strategy?

**A:** I think our sector is still very tied to tradition, so I see some resistance. The wine sector, especially in Italy, is very faithful to tradition, where AI doesn't really have much space. I don't think customer feedback would be positive.

**Q:** Would your oldest colleagues trust AI recommendations, or would they prefer relying on personal experience and tradition?

**A:** In production, they might trust it because it could help optimize time. But in process of creating the wine they would trust themselves more.

**Q:** Should large companies set an example for smaller ones in adopting AI? Could Firriato be a leader?

**A:** Yes, large companies always act as leaders in any sector. However, Firriato is not yet ready to set an example, because it hasn't fully implemented AI effectively within the company. The only department where it is used is marketing—and that's a completely different story.

**Q:** What did you think of our questions? Were they interesting? Was anything missing or too specific?

**A:** Your questions were very appropriate. This is a topic that isn't talked about much, so any questions about current work processes are welcome.

## I.2 Interview with Nicola Marino Abate

Good morning and thank you very much for your time. We are a group of university students conducting research on how Artificial Intelligence (such as vineyard drones or soil sensors) will impact Italian wineries. We know technology can help, but we also know that wine is tradition, and there is a risk of damaging a company's artisanal identity or unnecessarily complicating vineyard work. For this reason, we created this 'Checklist Draft'. It is a tool we would like to propose to managers like you, to be used before purchasing new technologies, in order to assess whether the company is ready. Since you are an expert in the field, we ask you a favor: we will ask you some questions, and we would like you to criticize them without restraint. Tell us: do these questions make sense in the real life of your winery? Are they too theoretical? How would your employees react? Your feedback will help us turn this document from an academic exercise into a truly useful tool for businesses.

**Q:** First of all, introduce yourself: what is your name? How old are you? What do you do?

**A:** My name is Nicola Marini Abate, I am 44 years old, and I am a winemaker and producer. I work as a winemaker in a cooperative (Colomba Bianca), I do consulting work, and I run my family winery, Marini Abate. It is a small business with 50 hectares of organic vineyards that we have managed for four generations.

**Q:** Do you use artificial intelligence in your work? If yes, how?

**A:** At the moment, I use AI very little, mainly for research activities, storytelling, and in-depth exploration of viticulture and winemaking topics.

**Q:** Would you introduce AI into your company?

**A:** Yes, but first it would be necessary to conduct thorough research: understand how it works, the costs, and how it could help us improve.

**Q:** Who should be responsible for final decisions if AI provides recommendations (e.g., harvest timing, irrigation, disease prevention)?

**A:** If we were to use AI, there would need to be a technician or vineyard winemaker who, based on experience, could verify whether the recommendations are reliable. In my opinion, it is risky for a business to trust it blindly; it should first be monitored.

**Q:** Could AI replace manual work in the vineyard?

**A:** Absolutely, at least in part. More than just AI, we should consider integration with machinery, equipment, and drones, which already allow many operational activities and monitoring tasks, such as grape ripeness. If these tools were further enhanced with AI, the monitoring could become even more effective.

**Q:** Could AI replace the role of the winemaker?

**A:** It would need to be tested carefully. From a theoretical knowledge standpoint, AI could even surpass a professional, since it can quickly access decades or centuries of data. However, producing high-quality wine still requires human sensory abilities—sight, smell, taste—and experience. Today, AI can be an important scientific support, but not a complete replacement.

**Q:** How would workers react to AI in the winery?

**A:** I think positively. Many automated and digital tools are already used in areas like administration, accounting, and purchasing. If introduced correctly, AI would be seen as a natural evolution of work.

**Q:** Would you invest in AI today?

**A:** In principle yes, but it would depend heavily on costs. I'm not against innovation, especially if it brings real benefits, but a small company must carefully evaluate economic sustainability.

**Q:** Would you be open to using AI in daily activities like harvesting, tasting, bottling, or labeling?

**A:** Absolutely. However, it is essential to understand how to manage it and use it properly. Like any new process, it must be studied and understood before implementation.

**Q:** In which areas could AI be concretely introduced?

**A:** Across the entire production chain. Not so much in 'monotonous' tasks, but in processes that require constant monitoring:

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- vineyard growth
- grape ripening
- harvesting
- grape intake
- fermentation
- aging
- pre-bottling

If AI helps improve quality or reduce errors, then it is definitely positive.

**Q:** Would you prioritize quality over optimization for the time?

**A:** In winemaking, time depends on the type of wine you want to produce. If you try to speed things up excessively, you risk producing low-quality wine. We focus on quality.

**Q:** How long have you been a winemaker?

**A:** 26 years.

**Q:** Could AI replace your 26 years of experience?

**A:** In terms of knowledge, yes—because AI can instantly access a century of information. But in terms of quality, I don't think it can yet produce high-level wines. It can produce wine, but not of a certain depth.

**Q:** Could AI help with irrigation and logistics?

**A:** Yes. Irrigation decisions are already supported by monitoring tools; integrating them with AI could improve efficiency. Logistics is also important, as it involves planning and resource management—like maintaining optimal inventory levels.

**Q:** What about customer service and sales?

**A:** It depends on the type of customers. A market study would help understand whether customers prefer automated systems or direct interaction. In the wine sector, sensory experience and human relationships remain very important.

**Q:** Would drones be useful for vineyard monitoring?

**A:** Excellent—definitely the future. They would help monitor ripening and vine diseases, and improve treatments, especially for organic production. An advantage is that drones can operate even after rain, when disease risk is higher, improving prevention.

**Q:** Who is responsible if AI leads to a wrong decision?

**A:** Until we fully understand AI, human supervision is essential. Humans should prevent errors, so responsibility ultimately lies with them.

**Q:** Is it risky to rely blindly on AI?

**A:** Yes. It should be carefully tested, monitored, and evaluated before being trusted. Only after real-world use can we assess its reliability.

**Q:** What rules are essential for AI adoption?

**A:** Privacy is fundamental. Sensitive company data must not become public. Once data protection and proper supervision are ensured, the potential applications are very broad.

**Q:** Could AI compromise the traditional identity of the winery?

**A:** No, absolutely not. Tradition is not opposed to innovation. On the contrary, tradition must evolve to survive.

**Q:** How would customers and suppliers react to AI?

**A:** They would mainly focus on practical and economic aspects. Suppliers want better returns, customers want good quality at a competitive price. The sector already uses advanced technologies (GPS, automated machinery), so AI would not be seen as a radical change.

**Q:** Could AI improve environmental sustainability?

**A:** Certainly. Greater precision means fewer resources used and interventions only when necessary. For example, drones could apply treatments using much less water than traditional methods, while maintaining effectiveness. This would benefit both the environment and production efficiency.

**Q:** What did you think of our questions?

**A:** I think they covered many aspects and were quite comprehensive.

## I.3 Interview with Andrea Sparta

Hi and thank you very much for your time! I'll only take about fifteen minutes. We are a group of university students conducting research on how Artificial Intelligence will change the world of work and life within companies. We all know AI can speed things up, but there is also a risk that it may create serious problems: from employee privacy violations, to job losses, to incorrect decisions made by a computer without anyone taking responsibility. To try to prevent these issues, we created this 'AI Adoption Checklist Draft'. In this interview, I ask you to be honest and tell me everything that comes to mind. Think about your current

job or past experience: if your company used these rules, would they make sense? Are there terms that are too "technical" for a normal worker to understand? Would you feel protected by these rules, or do they seem like a bureaucratic waste of time? Be ruthless: there are no right or wrong answers. The more you criticize the document, the more you help us improve it. Let's begin!

**Q:** First of all, introduce yourself: what is your name? How old are you? What do you do?

**A:** I'm Andrea Sparta, I'm 51 years old. We run a company that produces plexiglass items for online sale, mainly B2C design products.

**Q:** Do you use artificial intelligence in your work? If yes, how? If not, why?

**A:** We use AI a lot, especially for marketing and product listings—to create content for our e-commerce site, such as descriptions or product sheets. We also use it a lot to create python code to automate certain tasks.

**Q:** Would you introduce AI into your company?

**A:** Yes, absolutely, it is already a reality for us.

**Q:** Who should be responsible for final decisions if AI provides recommendations?

**A:** It's a complex topic. There always needs to be a balance between technology and human expertise. If AI provides recommendations, a qualified manager or worker should evaluate the situation and make the final choice, based on their experience. We cannot blindy trust a computer.

**Q:** Could AI replace manual work in your company?

**A:** In some areas, yes. It has already changed how we write code and text. For manual production, we use machinery that is automated, but human intervention is still needed to supervise the work and ensure quality.

**Q:** Could AI replace the role of a manager or a highly skilled employee?

**A:** It can support them, but not completely replace them. Management requires human skills like strategic vision, emotional intelligence, and empathy. AI doesn't have these, but it is an excellent tool for data analysis and optimization.

**Q:** How would workers react to AI in your company?

**A:** Reactions vary. Some see it as an opportunity to learn and work faster, while others fear it might make them less relevant or even replace them. It's important to explain that AI is a tool to support them, not a threat.

**Q:** Would you invest in AI today?

**A:** Yes, we are already doing it because it provides a significant competitive advantage.

**Q:** Would you be open to using AI in daily activities like customer service or inventory management?

**A:** Yes, we already use automated systems for some parts of customer service, and we are evaluating how AI can help with warehouse and stock optimization.

**Q:** In which areas could AI be concretely introduced?

**A:** Marketing, content creation, and data analysis. These are the fields where AI expresses its maximum potential today for a company of our size.

**Q:** Would you prioritize quality over optimization for time?

**A:** For our products, quality is essential. If AI helps us save time without reducing quality, it is perfect. But we would never sacrifice product quality just to be faster.

**Q:** Who is responsible if AI leads to a wrong decision?

**A:** The human supervisor. If a company relies on AI, it must ensure a human checks the final output before making important decisions. The ultimate responsibility is always human.

**Q:** Is it risky to rely blindly on AI?

**A:** Very risky. AI can make mistakes or generate false information ("hallucinations"). It must always be monitored.

**Q:** What rules are essential for AI adoption?

**A:** Data protection and privacy are fundamental. Also, clarity on who is responsible for what.

**Q:** Could AI compromise the identity of your company?

**A:** No, because our corporate identity is based on the design and quality of the plexiglass products we create. AI helps us sell and communicate better, but the heart of the product remains ours.

**Q:** How would customers and suppliers react to AI?

**A:** Most customers don't care if you use AI as long as the product is excellent and the service is efficient. For suppliers, it can improve logistics and coordination.

**Q:** Could AI improve environmental sustainability?

**A:** Yes, by optimizing production processes to reduce material waste, which is very important when working with plexiglass.

**A:** Can I add something about my concerns for the future?

**Q:** Of course.

**A:** I'm mainly concerned about information. AI feeds on online content created by humans who often earn money from it. If more people, including myself, stop visiting original sources because AI gives immediate answers, the economic incentive to create content disappears. And if no one produces new information, AI will eventually have less reliable material to rely on. It's a cycle that risks becoming self-destructive.

**Q:** What did you think of our questions? Any criticism?

**A:** I already added one earlier, and I'd like to add another. People often ask: 'Will AI take jobs?' Rather than eliminating jobs, I think it will transform them. I compare it to tractors: when they arrived, many manual agricultural jobs disappeared, but society evolved and created new opportunities. In my case, AI has replaced some tasks, since I can now do alone what previously required multiple people. However, I believe new, more specialized roles will emerge. Repetitive and standardized jobs will be the most affected, but I don't see a simple elimination of work—I see a transformation of how we work.

## I.4 Interview with Antonio Tavani

Hi and thank you very much for your time! I'll only take about fifteen minutes. We are a group of university students conducting research on how Artificial Intelligence will change the world of work and life within companies. We all know AI can speed things up, but there is also a risk that it may create serious problems: from employee privacy violations, to job losses, to incorrect decisions made by a computer without anyone taking responsibility. To try to prevent these issues, we created this 'AI Adoption Checklist Draft'. In this interview, I ask you to be honest and tell me everything that comes to mind. Think about your current job or past experience: if your company used these rules, would they make sense? Are there terms that are too "technical" for a normal worker to understand? Would you feel protected by these rules, or do they seem like a bureaucratic waste of time? Be ruthless: there are no right or wrong answers. The more you criticize the document, the more you help us improve it. Let's begin!

**Q:** Introduce yourself: What's your name? How old are you? What do you do? Do you use artificial intelligence in your work? If so, how? If not, why?

**A:** My name is Antonio Tavani, I am 62 years old. I lead a corporate group that operates in two very similar sectors: the first is a tourism and hotel business with catering services, and the second is a protected residential facility for the elderly, including those with partial disabilities or loss of autonomy, currently hosting about 70 permanent residents. Currently, I use AI very little because no applications have been proposed to me for immediate integration. This is also because we are not a highly digitized company, as the services we provide—both in hospitality and healthcare—are delivered directly to the person.

**Q:** How do you think AI could change the roles and responsibilities of people in your organization?

**A:** I believe Artificial Intelligence represents a major innovation for business processes, even in my fields of tourism and social-healthcare assistance. AI can contribute by analyzing guest behaviors and needs, classifying them to provide a more immediate and organized response platform for service providers. On the operational side, those of us providing hospitality and services, it can and must help us build more immediate, consistent, and above all more uniform procedures across different staff members.

**Q:** Which tasks should remain fully under human control, even if AI tools are available?

**A:** All tasks related to the final interaction with the user, guest, or patient must remain fully human. AI can process data, group it, and analyze it, but it cannot replace the relational aspect, empathy, or human touch. In both of my sectors, the relationship with the person is the core of the service, so the final execution and contact must remain entirely in human hands.

**Q:** What new skills or competencies would employees need in order to work effectively with AI?

**A:** Employees will definitely need to develop digital literacy and data interpretation skills. They need to understand how to read the insights provided by AI and how to use them to improve their daily work. It's not about becoming programmers, but about becoming capable of collaborating with these new tools without being overwhelmed by them.

**Q:** Who should be responsible for decisions supported or suggested by AI systems?

**A:** The responsibility must always remain with the human manager or the professional figure in charge of that specific process. AI provides recommendations based on statistical data, but it cannot evaluate the specific, emotional, or exceptional context of a situation, which is very common in our field. Therefore, the final decision and the legal/ethical accountability must rest with a human.

**Q:** Do you think AI would create new roles in the organization, such as AI supervisors, data specialists, or ethics officers?

**A:** In companies of our size, it might not create fully independent new roles immediately, but it will certainly add new responsibilities to existing roles. For instance, our IT managers or department heads will need to take on the supervision of these systems. However, in the future, as these technologies become more pervasive, specialized figures like data analysts or privacy supervisors might become necessary.

**Q:** Which daily activities or processes in your organization could benefit most from AI support?

**A:** In the hotel sector, booking management, guest profiling, and predictive analysis for occupancy and food waste in catering could benefit significantly. In the healthcare facility, AI could assist in monitoring patient health parameters, scheduling shifts, managing medication inventories, and optimizing logistics.

**Q:** How are important decisions currently made in your organization: through human experience, data, technology, or a combination of these?

**A:** Currently, decisions are made through a combination of human experience and historical data, but experience still plays a dominant role. Technology is used as a support for registering data, but the interpretation and the final choice are heavily reliant on the background and intuition of the management and coordinators.

**Q:** How could AI improve efficiency, productivity, or decision-making in your organization?

**A:** AI could drastically reduce the time spent on repetitive administrative tasks, allowing our staff to focus more on direct care and hospitality. It could improve decision-making by providing real-time data analysis, allowing us to anticipate issues rather than just responding to them after they occur.

**Q:** What activities should not be automated by AI, and why?

**A:** As mentioned before, any activity involving direct care, emotional support, clinical evaluation, and guest relation should never be automated. You cannot automate the empathy needed to comfort an elderly resident or the welcoming attitude required to make a hotel guest feel at home.

**Q:** What challenges could appear when integrating AI into existing work processes?

**A:** The biggest challenge is psychological resistance to change, especially from older employees who might feel threatened or complicated by new technologies. Another challenge is ensuring the quality and accuracy of the data input, because if the initial data is poor, the AI's output will be useless or misleading.

**Q:** What rules or guidelines should be created before AI is introduced into the organization?

**A:** Clear operational guidelines must be established to define the boundaries of AI intervention. We need protocols that state exactly when the employee must step in and override the system, and explicit rules regarding data handling to ensure compliance with privacy laws.

**Q:** How important is transparency when AI systems give recommendations or make decisions?

**A:** It is absolutely fundamental. We must avoid the "black box" effect. If an AI suggests a specific shift schedule or highlights a risk parameter for a resident, the staff must be able to understand *why* that recommendation was made. Transparency builds trust among workers.

**Q:** How should the organization make sure that AI is used fairly and responsibly?

**A:** Through continuous internal auditing and by involving the staff in the implementation phase. We need to create a feedback loop where workers can report anomalies, biases, or errors generated by the system, so it can be adjusted promptly.

**Q:** What privacy or data protection concerns could appear when using AI systems?

**A:** In the healthcare facility, we handle extremely sensitive medical and personal data. The risk of data breaches or unauthorized data sharing by the AI provider is a major concern. We must ensure maximum security and total control over where this data is stored and processed.

**Q:** How should the organization manage mistakes, risks, or harmful outcomes caused by AI-supported decisions?

**A:** By having a strict rule of human oversight. If an error occurs, we must immediately trace whether it was a system failure or a human misinterpretation. The protocol must include an immediate rollback to manual procedures to protect the safety of the patients or guests.

**Q:** What organizational values should guide the adoption of AI?

**A:** Responsibility, respect for the person, and transparency. Technology must be a tool that elevates the quality of our service and respects the dignity of both our employees and the people we care for.

**Q:** How can AI be introduced without reducing employee trust or motivation?

**A:** By making them part of the process—and here I am speaking indiscriminately across the board for the hotel, the restaurant, and the care home—we must involve them in the data acquisition of guest profiling, behavioral analysis, and process evaluation. By doing so, they feel like an essential part of building the database that fuels this 'engine', this 'powerhouse' which then provides us with the best insights or analyses to make the best decisions.

**Q:** In what ways could AI support long-term goals such as sustainability, inclusion, quality, or competitiveness?

**A:** I believe that regarding environmental sustainability, AI does not have a negative impact; in fact, I think it standardizes processes and can push us to be more eco-friendly. However, I am saying this with reference to an endogenous analysis, meaning, in relation to my own companies. On the other hand, regarding the environment as a global value, the explosion of AI will actually lead to hyper-consumption of energy due to the proliferation of data centers, databases, and clouds; from this perspective, the impact is not exactly or entirely sustainable.

As for social or ethical sustainability, the arrival of AI in business processes without careful and prudent human oversight could definitely create issues. This is the kind of sustainability that directly impacts the person, the worker, and that is where I believe we need to be much more careful.

**Q:** How can the organization balance innovation and technological efficiency with human judgment and experience?

**A:** By maintaining a clear hierarchy where human judgment always sits at the top. Innovation should be welcomed as an accelerator and an optimizer, but experience and intuition must remain the ultimate safety net and the guiding force of the company.

**Q:** In your opinion, what would make AI adoption successful in an organization?

**A:** An adoption is successful when the technology becomes invisible because it is so well-integrated into the daily routine, and when the employees themselves acknowledge that it has made their job easier and improved the quality of the care or hospitality we provide to our people.

# J AI use disclosure

In accordance with course policies, the team discloses the following regarding the use of AI tools in this deliverable:

- Which tools were used: Generative AI technologies, specifically Gemini and ChatGPT, were utilized during the preparation of this study.

- How they were used: The tools were used primarily during the initial drafting phase to support structural outlining, establish a conceptual baseline for the text, and perform lexical refinement (enhancing the academic tone). Furthermore, they were employed for executing technical formatting (e.g., generating Markdown tables and Python-based data visualizations) to improve the layout and for visually synthesizing the methodological framework into a comprehensive workflow diagram (Figure 2).
- What verification the team performed: Every output generated by AI (including text, structural outlines, and data visualizations) was rigorously cross-referenced by the team against our primary raw data (survey results and interview transcripts) to ensure absolute factual accuracy and alignment with our qualitative findings.
- Source Verification: The team formally declares that all team members have read and checked all cited sources referenced in this paper.

# K Members of the group

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Table 9: Team members and email addresses

# L Link File Zip

https://drive.google.com/file/d/1UEm-NNehbp3PYoDuNR5iFPB7QWEylKBg/view?usp=sharing