

## Decision Making In Choosing Independent Auditors For Conducting Initial Audit Using Analysis Hierarchy Process For One Of The Exporter Company in Australia

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### Keywords

Analytical Hierarchy Process, Decision-Making, Independent Auditor, Live Cattle Export, ESCAS, Supply Chain Compliance.

### ABSTRACT

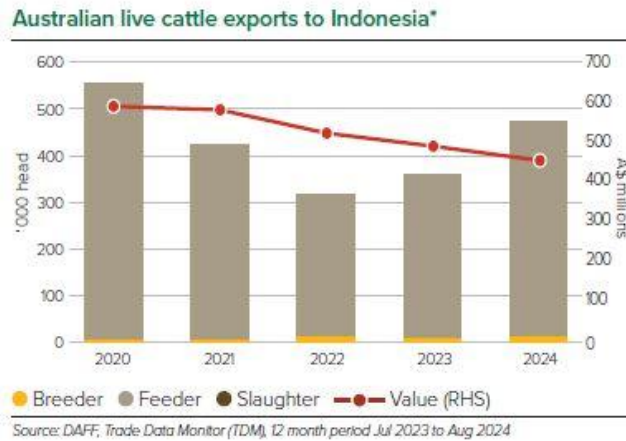
The Australian live cattle export industry to Indonesia operates under a stringent regulatory framework, the Exporter Supply Chain Assurance System (ESCAS), which mandates Independent Initial Audit Reports (IIAR) for new facilities. A critical challenge for exporters is the selection of a competent independent auditor, a decision often made informally, leading to risks of audit failure, cost overruns, and shipment delays. This study addresses this gap by applying the Analytical Hierarchy Process (AHP) to develop a structured, multi-criteria decision-making model for auditor selection. The research identified four key selection criteria through expert interviews: Flexibility in Time, Credibility, Cost per Facility, and Experience in the Field. Pairwise comparisons by industry experts determined the priority weights, revealing Flexibility in Time as the most critical factor (55.8%), followed by Credibility (26.3%). Three auditor firms were evaluated against these criteria. The AHP analysis calculated global priority scores, ranking Auditor A first (38.4%) due to its exceptional flexibility, which is paramount for mitigating supply chain disruption risks. Auditor B ranked second (35.9%), valued for its strong credibility, while Auditor C (25.7%) was deemed unsuitable despite its low cost due to inflexibility. The study concludes that a structured AHP model effectively transforms a subjective decision into a transparent, defensible process. The findings recommend selecting Auditor A, prioritizing operational resilience and regulatory security over short-term cost savings. This approach provides exporters with a robust framework to ensure compliance, protect market access, and enhance strategic decision-making in a high-stakes industry.

### INTRODUCTION

The livestock export industry is essential to Australia's economy, contributing significantly to trade and employment (Fleming et al., 2020; Rusak et al., 2021; Willis et al., 2021). The gross value of cattle and beef production including live cattle exports was \$A12.7 billion with an off-farm value of \$A16.9 billion in 2016-17 (Greenwood et al, 2018) in Southeast Asia, Indonesia stand out for being a primary destination for live cattle exports. To maintain the ethical treatment of animals and ensure compliance with international standards, the Australian government introduced the Exporter Supply Chain Assurance System (ESCAS). Australia is one of the world's largest exporters of live cattle, supplying key markets in Southeast Asia, with Indonesia as a major

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trading partner. However, the industry operates under intense scrutiny to ensure animal welfare, ethical practices, and compliance with international standards.



**Figure 1.** Australian live cattle export to Indonesia (DAFF, 2023)

In response to global concerns about animal welfare, the Australian Government introduced the Exporter Supply Chain Assurance System in 2011 (Fleming et al., 2020; McGillivray, 2023; Willis et al., 2021; Windsor, 2021). ESCAS forces an exporters to demonstrate compliance with standards across the supply chain, covering animal handling, traceability, and slaughter practices. The system aims to ensure adherence to the "Five Freedoms of Animal Welfare," which guarantees animals' protection from unnecessary suffering throughout the supply chain (DAFF, 2023).

The application of Analytical Hierarchy Process (AHP) in auditor selection has been explored in various contexts, though limited research specifically addresses independent auditor selection in agricultural export industries (Alvarenga et al., 2018; Bouramdane, 2023; Gupta et al., 2022; Hardies et al., 2025; Jreisat et al., 2024). Yazdani et al. (2011) developed a combined AHP-PROMETHEE framework for auditor selection in manufacturing contexts, identifying cost, competence, and reliability as key criteria. Their study demonstrated that structured multi-criteria approaches significantly improved decision consistency compared to intuitive selection methods (Haseli et al., 2020; Moghtadernejad et al., 2018; Paradowski et al., 2025; Si et al., 2016). Similarly, Bayou et al. (2007) applied fuzzy-AHP to select optimal mechanisms for developing accounting standards, emphasizing the importance of credibility and expertise in regulatory environments.

More recently, Kumar and Singh (2019) utilized AHP for external auditor selection in Indian manufacturing firms, finding that technical competence (35.2%) and cost-effectiveness (28.7%) were primary decision factors. However, their study focused on financial auditing rather than supply chain compliance auditing. Chen et al. (2020) applied AHP to select quality auditors in food safety contexts, identifying time flexibility and industry experience as critical factors, which aligns with the unique requirements of agricultural export industries.

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Despite these contributions, significant gaps remain in the literature: No prior research has specifically addressed independent auditor selection for ESCAS compliance in Australian live cattle exports. Limited studies examine the relative importance of operational flexibility versus technical expertise in time-sensitive regulatory environments. Existing AHP applications in auditor selection lack focus on supply chain disruption mitigation

ESCAS is a regulatory framework introduced to maintain Australia's leadership in ethical and sustainable livestock exports. It requires exporters to take full responsibility for ensuring that their supply chains—up to the point of slaughter—meet strict animal welfare standards in importing countries (DAWE, 2023).

Key Features of ESCAS:

1. Animal welfare; Handling and slaughter of livestock in the importing country must be in accordance with World Organisation for Animal Health (OIE).
2. Control through the supply chain; The exporter must control all supply chain arrangements. This includes: Transport, handling and husbandry, and Slaughter.
3. Traceability; The exporter must be able to trace the location of all livestock at all points of the supply chain.
4. Independent Auditing; The supply chain in the importing country must be audited. Exporters must use an auditor who: is independent, has no conflict of interest, and has an appropriate level of competence and expertise (DAFF, 2023).

For an exporters, ESCAS presents both an opportunity and a challenge. While it reinforces Australia's reputations as a responsible trading partner, it also imposes strict compliance requirements. Independent auditors play a critical role in this system by conducting performance audits and incident investigations, producing reports such as Independent Performance Audit Reports (IPAR) and Independent Incident Audit Reports (IIAR). These reports verify the compliance of facilities like feedlots and abattoirs in importing countries, including Indonesia. Based on my experience working in an exporter company, exporters always use random auditors to conduct an IIAR for the newly registered facility to meet ESCAS requirements. Given the variability in costs, expertise, and operational styles of auditors, exporters face significant challenges in selecting the right partner to ensure seamless compliance (DAFF, 2023).



**Figure 2.** Independent Auditor conducting IIAR at Abattoir (Company data, 2025)

In this research, we focused on the independent auditor factors, which are financial constraints in the Live cattle export industry. The selection of an independent auditor for the Initial

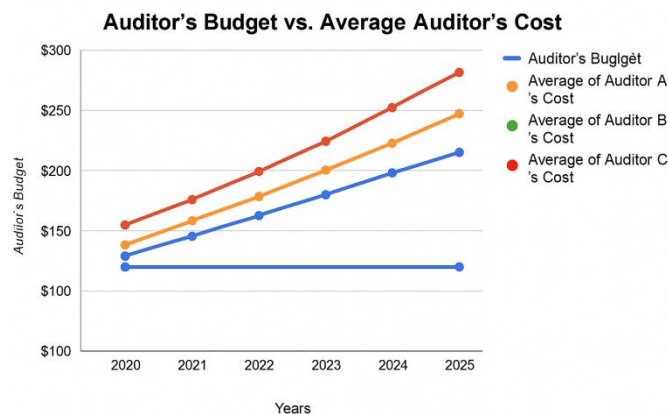
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Independent Auditor Report (IAR) has become a critical decision for an exporters. Usually, the selection of an independent auditor often using random choices without a structured assessment of key criteria such as cost, auditor experience, regulatory knowledge, and service reliability.

In addition, The Analytic Hierarchy Process (AHP) is particularly well-suited to address this issue, as it enables decision-makers to evaluate both quantitative and qualitative factors through a hierarchical, criteria-based model. By applying AHP, this study aims to transform a previously subjective and inconsistent process into a replicable, data-driven method that helps exporters make more informed, rational, and defensible choices when selecting independent auditors.

XYZ Pty Ltd has been one of the exporters operating internationally since 1983. Since then, our focus has been on the Asian market, especially Southeast Asia, with Indonesia representing the top demand for live cattle. XYZ was the first company to introduce feeding cattle to Indonesia 30 years ago. Australian live feeder cattle exports to Indonesia reached 339,414 head in 2023, with XYZ contributing 10% of the total live cattle sales to Indonesia in 2023 and 2024 (company data). XYZ plans to continue expanding and growing its sales of live cattle to Indonesia and the Southeast Asia market in the future.

Selecting an Independent auditor is a necessary step for the exporter of Australian live cattle, especially those that operating in Indonesia. Exporters are required to conduct an IAR for new facility that will be added into the supply chain which is feedlot and abattoir. Thus, those facility needs to ensure compliance with Australian and Indonesian Animal welfare, to keep the industry continuous However, in practice, the selection of auditors by exporters has often been random or informal, without a structured evaluation process. This has led to several challenges, particularly related to increasing audit costs, budget overruns, and unsatisfactory audit outcomes.



**Figure 3.** Independent Auditor Budget (Company data, 2025)

Over the past six years (2020–2025), the average cost of hiring independent auditors has steadily increased for conducting an IAR, while company budgets have lagged behind. For example, in 2025, the company's allocated budget is USD 220 per facility, yet the actual cost of

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available auditor firms ranges from USD 240 to USD 280 per facility. This consistent overbudget trend underscores the importance of cost control in the decision-making process.

In addition to the financial budget, exporters also often experience audit failure due to auditors lacking adequate expertise in visiting feedlots and abattoirs in Indonesia. The outcome of audit failure could damage the exporter in making trade with importers which is in importing countries such as Indonesia (Dewi et al., 2025; Firmantoro, 2022; Larsen et al., 2018; Overdevest & Zeitlin, 2018). It is very clear that the experience of the auditor and knowledge in the field are just critical as cost in selecting an independent auditor firm. Despite the significance of this decision, no prior studies have addressed for an exporters company to choose independent auditors using a structured, criteria-based method. Thus, it can be said that this presents a gap in both academic research and business practice.

Addressing this issue for the exporter that supplies live cattle to Indonesia, the Kepner-Tregoe (KT) Decision Analysis framework is proposed. This research classified the problem of selecting an independent auditor firm based on timing, trend, and impact using Kepner-Tregoe (KT) situational Analysis framework (Markopoulos et al., 2022):

- **Timing** : considering the urgency of the problem and the impact if it's not taken any action
- **Trend** : considering the issue trend and potential problem in the future
- **Impact** : considering impact and effect of the problem if it's not resolved

Based on the list of business issues at PT XYZ, it is analyzed that all of their issues are all High priority in Timing, Trend, and impact and should take decision analysis immediately for the next process.

**Table 1.** Situational Analysis

<b>Problem</b>	<b>Timing</b>	<b>Trend</b>	<b>Impact</b>	<b>KT Process</b>
Random selection of independent auditors	High (H) Audit planning is ongoing and future audits require better preparation to ensure success	High (H) Increasing regulatory scrutiny and past audit failures highlight the need for a systematic approach	High (H) Risk of regulatory non-compliance, shipment delays, and financial loss	Decision Analysis (DA)
Auditor costs exceeding the Exporter budget	High (H) Budget planning is yearly; costs have risen every year without internal cost control response	High (H) Audit firm pricing is consistently increasing across all providers	High (H) Overbudgeting leads to fewer facilities being audited or lower profitability	Decision Analysis (DA)
Previous use of inexperienced auditors	High (H) Has led to audit failure in the past; must be avoided in upcoming audits	High (H) Exporter feedback shows that experience and knowledge of the industry are crucial	High (H) Failure of audits causes trade disruption and reputational harm	Decision Analysis (DA)
No established framework for auditor selection	High (H) Decision process is informal and varies by person/team	High (H) No standard or tool currently used across exporters	High (H) Inconsistent decisions reduce reliability and increase exposure to audit risks	Decision Analysis (DA)

**Timing:** The selection of independent auditor firms is critical since exporters must choose independent auditor firms before conducting Initial Independent Auditor (IIAR), which is mandatory for exporters cattle of Australia before conducting a shipment to an importer country such as Indonesia. Currently, the selection of the independent auditor is often made randomly, and in some cases, the firms are chosen without proper vetting of their experience or their practical knowledge. This caused failed audits, causing shipment delays and regulatory penalties. The urgency increases when audits are scheduled by the importers seasonally.

**Trend:** The trend indicates a worsening situation. Over the past five years, the average cost of an auditor has risen consistently, with all known firms exceeding the exporter's allocated budget for each facility for IIAR. The compliance requirement for Australia also higher to comply with ESCAS (Exporter Supply Chain Assurance System), the auditor also have been monitored by the authorities especially after past audit failures due to inexperience and knowledgeable of some independent auditor firms.

**Impact:** if this problem is not resolved, the exporters will bear a very high consequence of non – compliance, increasing delay in trade for shipping, delays in certification, and Financially, overbudgeting may limit the number of facilities that can be audited, disrupting expansion plans and affecting overall profitability. Furthermore, unresolved issues in auditor selection can reduce exporter confidence and trust in the audit system, making the entire compliance process less effective. Therefore, structured and criteria-based decision-making is essential to minimize risk and improve audit outcomes with structured, criteria-based decision-making approach, such as the Analytic Hierarchy Process (AHP) is necessary to support exporters in choosing the most suitable auditors based on objective priorities such as audit experience, flexibility in time, cost, and credibility.

This research aims to identify the key criteria for selecting an independent auditor for the Initial Independent Audit Report (IIAR) within the live export industry and to determine the most suitable auditor by applying an Analytic Hierarchy Process (AHP) analysis. The study's objectives are to prioritize the main factors influencing this selection and to subsequently rank the most efficient and suitable auditor based on those established criteria, thereby providing a structured decision-making framework.

The scope of the investigation is specifically confined to the conditions of PT XYZ, which is mandated to comply with Australian regulations. The analysis relies on primary data from interviews with three selected industry experts and secondary data from a literature review, focusing only on three recognized auditor firms in Indonesia's live cattle sector. It is important to note that the findings are based on information available at the time of research and the specific perspectives of the consulted experts; therefore, results may not be universally applicable to other exporters or contexts due to potential changes in market conditions, regulations, or differing operational environments.

## METHOD

This research applied the Analytical Hierarchy Process (AHP) to identify the most suitable independent auditor for the Initial Independent Audit Report (IIAR) in the Indonesian live cattle export industry. AHP was selected for its effectiveness in handling complex decisions involving multiple criteria with differing importance.

A mixed-methods approach was used, combining qualitative interviews with industry experts and quantitative pairwise comparisons. Three experts, each with over five years of experience working with ESCAS requirements and involvement in the Australian live cattle export industry to Indonesia, were interviewed to capture their perspectives on auditor selection criteria. These qualitative insights informed the definition and weighting of decision criteria for the AHP model.

Secondary data, including internal reports from exporters (audit results, costs, compliance) and external documents such as ESCAS guidelines and industry publications, provided contextual background and benchmarks to support the analysis.

The qualitative data underwent thematic analysis, where interview transcripts were coded and grouped into themes like credibility, time flexibility, cost, and field experience. These themes helped interpret and validate the criteria used in the AHP.

Quantitative analysis involved calculating weights for each criterion using AHP via Microsoft Excel and BPMSG software. The final priority scores were used to rank auditor firms objectively, identifying the optimal auditor for conducting the IIAR and enabling a transparent, defensible decision-making process.

## RESULTS AND DISCUSSION

This research employs the Analytical Hierarchy Process (AHP) approach to examine decision-making related to selecting independent auditor firms for conducting IIAR in the Australian live cattle export industry operating in Indonesia. AHP is a systematic method that helps structure and assess complex decisions by comparing different criteria and opinions in pairs.

The primary goal of this study is to identify the key criteria and select the optimal independent auditor firm for IIAR activities. The evaluation criteria consist of factors such as experience in the field, cost per facility, flexibility in time, and credibility. The alternatives assessed are three independent auditor firms that are active in Indonesia and frequently engaged by exporters for IIAR purposes.

Through the pairwise comparison process, the priority of each criterion is determined based on its level of importance to the main objective. For example, expert judgments indicate that experience in the field is considered more important than other aspects, so it receives a higher priority weight. Furthermore, each auditor alternative is evaluated against each criterion to determine an overall score, resulting in a ranking of the most suitable firms.

**Table 2. Urgency of the Business Issue**

Problem	Timing	Trend	Impact	KT Process
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<b>Rising cost of auditor firms exceeding the allocated budget</b>	High (H) – The issue needs immediate attention to prevent long-term cost overruns and financial strain on export operations	High (H) – Auditor service fees have been increasing annually over the last six years, outpacing budget growth	High (H) – Continuous overbudget may lead to reduced audit coverage or inability to comply with IIAR requirements	Decision Analysis (DA)
<b>Selection of auditors without sufficient expertise in live cattle export industry</b>	High (H) – Must be addressed early to avoid audit failures or non-compliance	High (H) – Lack of expertise increases risk of non-conformity findings	High (H) – May result in failure to obtain export approval from Australian authorities	Decision Analysis (DA)
<b>Limited flexibility of auditors in scheduling site visits</b>	Medium (M) – Impacts operational efficiency and planning	High (H) – Scheduling conflicts are becoming more frequent with increasing number of facilities to audit	Medium (M) – Could cause delays in certification and shipment	Decision Analysis (DA)
<b>Lack of systematic method in selecting auditors</b>	High (H) – Needs to be resolved to improve decision consistency and transparency	High (H) – Random selection persists despite growing complexity of audit requirements	High (H) – May lead to repeated inefficiencies and inconsistent audit quality	Decision Analysis (DA)

**Interview Analysis**

The first step in our research is to gather the criteria and options for our goal, which is to rank independent auditor firms for conducting an IIAR for Australian live cattle industry that operating in Indonesia to solve the business issue. According to Thomas Satty on his book in 1980, Satty suggest that AHP decision making should use the minimum sample of 3-15 experts that is dependent on the complexity of the decision. In this research study, the sample is taken to 3 key decision makers of 3 different company that is related to this industry and was categorized as an expert. The profile of the expert is as follow:

**Table 3.** Participants of Interview

<b>Participants</b>	<b>Position</b>
Reza Muhammad S.Pt M.Sc	Supervisor of Supply Chain Staff of PT ABC
Darmawan S.Pt	Supervisor of the Operational Head of PT XYZ
Mujiono S.Pt	Supervisor of the Animal Welfare Officer of PT DEF

**Table 4.** Interview Result (Expert)

<b>Question</b>	<b>Reza Muhammad</b>	<b>Darmawan</b>	<b>Mujiono</b>
<b>What factors do you</b>	The ability of the auditor to adjust schedules and conduct	Flexible in timeliness is a priority. If an auditor cannot	Audit scheduling flexibility is crucial, since exporters must

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<b>consider most important when selecting an independent auditor for initial audit of cattle facilities?</b>	audits in a timely manner is very important because delays in audit processes can disrupt export timelines.	adjust to our operational schedule, it creates risks of shipment delays.	comply with ESCAS deadlines and cannot afford postponements. If the auditor cannot adjust to our timeline request, we will choose who can do the audits.
<b>How do you ensure that the chosen auditor can deliver reliable and trustworthy audit results?</b>	The credibility and reputation of the auditor must be strong, with a proven track record in livestock facility audits. A credible auditor can judge and know the real situation on the field.	The auditor's credibility is key, because it ensures that their findings are accepted by regulators and international partners.	I would select auditors who have a credible name and are trusted by both exporters and importers.
<b>How do financial considerations influence your choice of an independent auditor?</b>	The cost of the IAR is always considered because exporters operate with strict budgets, but it should not compromise quality. Since audit failures will cost us more.	The cost is important; it must be balanced with reliability. The cheapest option is not always the best.	The budget constraints play a role for the exporters especially for IAR that can disrupt the shipment, but cost should not be prioritized over timeliness and credibility.
<b>Do you think experience in the field influences the effectiveness of the audit process?</b>	Experience is useful, but it is not as critical as flexibility or credibility. While it is quite important, experience cannot determine the timelines and flexibility.	Field experience can be an added value, but even a less experienced auditor can succeed if they are credible and flexible.	The experience of the auditors can help during the audit and ease on the field to communicate with others, but other factors are more decisive in ensuring audit success.
<b>From your personal point, common causes of audit failure when the wrong auditor is chosen?</b>	The audits could fail because of the lack of details in the report of audits, and not understanding the ESCAS requirement for IAR.	The audit failures are mainly caused by the wrong report of the auditors and delays in reporting to the Department of Agriculture of Australia.	The audit failures were mainly caused by poor ESCAS knowledge, delay in documentation, and timing inflexibility.
<b>From your point How do you evaluate Auditor firms A, B, and C?</b>	Auditor A is very strong in flexibility, which is essential in this industry. They are also reasonably credible, but their cost is quite high, and they only have medium experience. Auditor B has strong credibility and high experience. Their flexibility is moderate, but they are well recognized in the	Auditor A is attractive mainly because of their flexibility, but I share the concern about their high cost. Their experience is acceptable but not leading. Auditor B is reliable in terms of credibility and experience, which provides confidence for exporters. Flexibility is less compared to A, but still	Auditor A shows excellent flexibility and adapts to scheduling well. However, the high fee structure makes them less efficient. Experience-wise, they are not the top player. I value Auditor B's credibility and experience highly — they are trusted internationally. The cost is moderate, so more acceptable

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industry. Meanwhile, Auditor C has low flexibility and limited experience, but they are more affordable. Their credibility is only moderate.	workable. Auditor C might very low with budget, but their low flexibility and low experience make them less suitable.	Meanwhile, compared to A. For me, Auditor C as a low-cost option, but the lack of flexibility and experience could pose risks.
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The attribute definition form 4 criteria when deciding related to ranking the auditor for conducting Independent Initial Audit Report, the weight estimates of each of the criterion indicates that its relatively important in the decision making process for choosing an independent auditor firms for the Exporter Supply Chain Assurance System, especially for the IIAR audits. The higher the weight, it is more critical the factor is in mitigating risk and ensuring uninterrupted live cattle exporter from Australia to importer countries, especially to Indonesia. The researcher examines the weight from the highest level to the lowest level.

### Questionnaire Result

This subchapter explains the solution to the issues, based on the analysis in the previous section. After determining criteria and alternatives to achieve the goal which is to rank the independent auditor to conducting an IIAR for exporter company of PT XYZ, the researcher moves to scoring system to determine the relative importance (weight) of criteria and alternative through AHP mathematical calculations. There are 4 criteria, hence the total number of pairwise comparison is 9, with formula of number of Pairwise comparison = Number of Criteria +1.

The expert of the interview were the other exporter firms and importers in which incharge in handling the ESCAS matters. The experts were given questionnaire to answer the pairwise comparison to : Determine the criteria and determine the alternative. The range of score for all criteria is from 1-9 ranging from equally important which is ration of 1, to extremely important which is ration of 9. It is depending on the intensity of the preference from the question.

**Table 5. AHP Scale**

AHP Scale	Importance
1	Equal Importance
2	Equally to slightly important
3	Slightly more important
4	Slightly to much more important
5	Much more Importance
6	Much to far more important
7	Far more important
8	Far more important to extremely more important
9	Extremely more Importance

### Determine weight of Criteria

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Based on the pairwise comparison result where respondent / expert fill data collection online through BPMSG Website, the list of the criteria is concluded with the weight as follow:

### Priorities

These are the resulting weights for the criteria based on your pairwise comparisons:

Cat		Priority	Rank	(+)	(-)
1	Flexibility in Time	56.5%	1	15.9%	15.9%
2	Credibility	26.2%	2	6.5%	6.5%
3	Cost per Facility	11.8%	3	3.2%	3.2%
4	Experience in The Field	5.5%	4	1.7%	1.7%

**Figure 4. Result of Criteria Weight**

The weight estimates of each of the criteria indicates that its relative important in the decision-making process for choosing an independent auditor firms for the Exporter Supply Chain Assurance System, especially for the IAR audits. The higher the weight, it is more critical the factor is in mitigating risk and ensuring uninterrupted live cattle exporter from Australia to importer countries, especially to Indonesia. The researcher examines the weight from the highest level to the lowest level and its reason as follow:

#### ***Flexibility in Time (56,5%)***

Flexibility in time was the highest level for the criterion based on the findings, in the most changing live cattle export trade in Australia, the livestock vessel schedules is subject to frequent changes due to logistic, weather conditions, and animal welfare. An independent Auditor ability to deploy short notice is the primary factor for mitigating the risk of canceling shipment, and financial losses for delaying shipments. Flexibility has the highest impact on maintaining supply chain of facilities since it ensure the mandatory IAR audit to comply with the DAFF requirements.

#### ***Credibility (26,2%)***

The second highest priority is the independent auditor credibility. While flexibility ensures that audit happens on time, credibility ensures that the audit report is accepted by the Australian Department of Agriculture Fisheries and Forestry (DAFF). The reputation and integrity of independent auditors are crucial to avoid the audit report rejection, which would lead to delay shipments, re- audit, and exporter compliance to ESCAS being questioned by the DAFF. A credible independent auditor works as trusted partners, providing assurance that the compliance process was trustable and recognize by the regulator, and protecting exporter long term market access.

#### ***Cost per Facility (11.8%)***

Every firm must consider the cost of the operation, and the exporter must also comply with that. Cost per facility was a tertiary consideration. This state that experts are willing to pay

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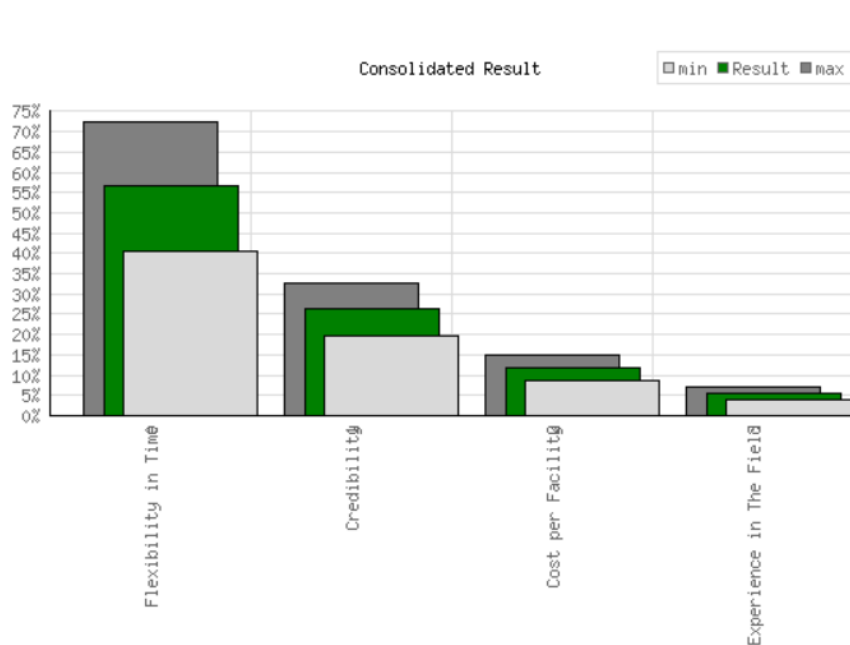
the independent auditor firms as long as they are trustworthy and guarantee flexibility and credibility. The potential cost of delayed shipments may be caused by choosing a smaller number of costlier fees of auditor firms since they are not credible. Therefore, cost is evaluated not in isolation, but as a value proposition for securing the services of a highly responsive and trusted firms.

### *Experience in the field (5,5%)*

Experience of the auditor was beneficial, specific experience of live cattle industry is the least weighted factor. The experts suggested that the IIAR audit is viewed primarily as standardized compliance process. Independent auditor who was competent mainly can be trained on the specific protocol checklist, whereas inherent attributes like operational flexibility and an established reputation are more difficult to acquire and are thus valued more highly in ensuring export compliance.

### Selection of Best Alternative Solution

Once determining relative importance (weight) of each criterion, Analytic Hierarchy Process (AHP) decision method is used to find the best alternative solution. The same respondent of previous questionnaire will conduct pairwise comparison and consistency check to evaluate



alternative solution using pre-defined scaled. The structured hierarchy of AHP will calculate the weight of each criteria and finally combine the weight of alternative to get the best alternative solution based on decision criteria. Below is the final weight of each criteria.

### Figure 5. Final Criteria

Based on the interview with the experts, three different independent auditors firms were identified as potential alternatives for conducting the independent initial audit reports. The

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following qualitative was established by each firms auditor, describing their performance against the four key selection criteria:

- Auditor A: This independent auditor firms is characterized by the strong of flexibility in scheduling to audit prior short notice, which is the most prominent advantage. This firms demonstrate moderate credibility for the DAFF. However, the cost was relatively high compare to other auditor firms, and it has moderate experience in the live cattle industry.
- Auditor B: This independent auditor firms is characterized by it strong credibility and have a very good report to DAFF regarding the report. This firms cost per facility was moderate and it has strong experience in the cattle industry.
- Auditor C: This firms' advantage is the low cost per facility audit. This firms demonstrate moderate credibility. However, the flexibility was very low compared to other firms, making it difficult to arrange short notice to audit, this firms also has low experience in the live cattle industry.

This result was counted as a primary data by the researcher, and the researcher examines that the best alternative solutions for choosing independent auditor firms is by the Flexibility in Time with highest percentage of 56,5%. Flexibility in time has become the top priority since in live cattle export trade auditor ability to deploy immediately for short notice audit for new facility, since it can impact on the livestock vessel scheduling and mitigate the risk of financial losses of delayed shipment and noncompliance with the DAFF IAR requirements. The cost of this firm was high; this was justified by the auditor with moderate credibility that ensures the report will be accepted and compliance with the DAFF and it can secure long-term market access.

Furthermore, the second and the third option will provide the exporter with alternative valuable insight. Auditor B with its high credibility which is 26,2% will ensure that if the auditor A schedule was full and can be a low risk back up option should agreements with Auditor A fail. At least, the Auditor C was rank last, even though the cost per facility was relatively low compared to other firms, its deficiencies in flexibility and experience of the auditor firms present an unacceptable level of risk that could jeopardize the entire live cattle export process. This result conclusively validates that in this specific regulatory context; the cost of non-compliance far outweighs the cost of the audit itself.

### Potential Problem Analysis

While the Analytical Hierarchy Process (AHP) provides a structured and rational framework for selecting and independent auditor firms, there will be several potential problems and limitations in the methodology and its application must be acknowledged. Hence, in executing the alternative solution in the future, the expert has great experience to give input for mitigation plan in the future.

**Table 6. Potential Problem Analysis**

Potential Problem	Possible Cause	Preventive Action	Contingency Plan
Inconsistent Performance	Auditor The auditor that is selected, fails to maintain	Include strict service level Agreements on	An Enforce cost penalties define in the

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	its promised level of flexibility or service quality after contracted by exporters	response and audit times in contract.	contract for non-compliance found. B. Be ready to contact Auditor B for future Audit while reviewing contract with Auditor A.
Rejection of Audit by DAFF	The initial audit report from the chosen auditor is questioned or rejected by DAFF because of perceived credibility issues or non-compliance with standards.	Prior to selection, formally verify the auditor's accreditation and past audit experience rate with DAFF	Request an immediate re audit from the same independent auditor at their cost.
Over Budget	Extended Auditor duration, the independent auditor may quote a price based on standard 1-2 day audit, if takes 3 days it will charge more.	Negotiate with independent auditor firms to fix rate per facility rather than the rate of each day.	Re-evaluate the cost-benefit analysis for future audits.
Operational Resistance	Internal staff or the Indonesian facility Staff in the abattoir and feedlots are resistant to the new auditor due to established relationships with previous firms or unfamiliarity with the new process.	Involving internal staff or facility managers in the early evaluation process	Organize a joint meeting between the new auditor, internal staff, and facility managers to align procedures and build trust. Provide additional training to bridge any process gaps.

## CONCLUSION

The selection of independent auditor firms is a critical strategic decision for Australian live cattle exporters to Indonesia, directly impacting compliance with DAFF and IAR requirements and ensuring uninterrupted market access. This study identified four key criteria for auditor selection—flexibility in time, credibility, cost per facility, and field experience—using the Analytic Hierarchy Process (AHP). Among the three evaluated auditors, Auditor A emerged as the most suitable due to its superior flexibility, which is essential for minimizing shipment delays and audit rejections despite its higher cost. Auditor B ranked second, valued for its credibility and experience as a reliable alternative, while Auditor C's lower cost was outweighed by inadequate flexibility and experience, posing significant compliance risks. Future research could explore integrating broader stakeholder perspectives and real-time performance data to further refine auditor evaluation models and enhance decision-making in this high-stakes industry.

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