



# TECHNICAL MANUAL & USER GUIDE

## SALES PROFILE 2

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# Introduction

**SALES PROFILE 2** is an assessment designed to evaluate an individual's sales potential by measuring their skills and motivations in the field of sales. The assessment highlights a candidate's strengths and weaknesses on the basis of 12 traits related to sales, revealing an individual's selling style and area of expertise.

## Profiles & Career suitability

- Candidates applying for sales or business development positions
- Sales professionals at different levels of seniority
- Employees in non-sales roles who may show potential for sales-related functions (e.g. engineers, consultants or technical experts)
- Students from business or management schools, particularly in career orientation, employability or recruitment preparation contexts

## Best suited to individuals who

- Have sufficient command of the assessment language
- Have had a first professional experience, enabling the understanding of work-related scenarios
- Are familiar with client-facing or commercial environments, even at an early stage

# 1. General Assessment Information

**SALES PROFILE 2** is a sales-specific assessment focused on behaviours that can be directly observed in professional sales situations. It explores how individuals are likely to act when faced with commercial situations: approaching prospects, handling objections, maintaining client relationships, or moving deals forward. This focus ensures close alignment with the realities of sales roles and everyday practices.

## 1.1. An Empirical and Scenario-based Approach

**SALES PROFILE 2** is built on an empirical approach based on real sales situations and scenarios that reflect realistic and contemporary commercial contexts, rather than just declarative or self-descriptive statements. Each scenario presents several plausible courses of action and invites respondents to project themselves into practical situations. This approach limits purely normative responding and provides more nuanced insight into behavioural tendencies as they are likely to be expressed in action.

## 1.2. Distinction from Personality Assessments and Declarative Questionnaires

**SALES PROFILE 2** is neither a personality assessment nor a classical declarative questionnaire. Unlike personality assessments, it does not aim to describe stable traits detached from context. Unlike declarative tools, it does not rely on direct self-evaluations of preferences or abilities. Instead, it focuses on behavioural choices made in context, offering a pragmatic and job-relevant perspective on sales-related functioning.

## 1.3. Key Principles for Interpreting Results

Results from **SALES PROFILE 2** should be interpreted as indicators of behavioural tendencies in sales contexts, not as fixed or exhaustive descriptions of an individual. Interpretation should:

- consider the overall pattern of results rather than isolated scores,

- be integrated with other sources of information within a broader assessment or development process.

This perspective supports the meaningful use of **SALES PROFILE 2** in both recruitment and development contexts.

## 1.4. Main Areas of Application

### **Recruitment and selection**

SALES PROFILE 2 supports recruitment decisions by providing insights into a candidate's sales potential, behavioural preferences and selling style. It is typically used alongside structured interviews and other assessment tools to support decision-making.

### **Career development and internal mobility**

The assessment can be used throughout an individual's career to identify strengths, development areas and training needs, or to support internal mobility toward sales, key account or business development roles.

### **Sales force analysis and audits**

At a collective level, the assessment may be used to analyse sales teams, identify dominant selling approaches and support collective development or reorganisation initiatives.

### **Career orientation and early identification of sales potential**

It can help identify sales potential in individuals who do not yet hold a sales role, including students or those in their early-career, and support orientation or career planning.

## 1.5. Combination with Other Assessments

**SALES PROFILE 2** is designed to be used in combination with other assessments, as part of a multi-dimensional evaluation approach (see image below). Within the *Key Predict* framework, **SALES PROFILE 2** provides behavioural data that can be integrated with other assessment results through the Talent Map. This supports competency-based interpretations, predictive models and a more holistic view of individual potential.



## 1.6. Uses of the Assessment

**SALES PROFILE 2** is intended for use by trained professionals, such as HR practitioners, recruiters, consultants and psychologists. Administrators are expected to:

- ensure that the assessment is relevant to the intended purpose
- clearly inform participants about the objectives of the assessment
- interpret results within their intended scope

- respect confidentiality and data protection requirements

The assessment is administered online and can be completed without supervision, depending on the context, with additional supervision if necessary.

## 2. Evolution of the Assessment

Sales roles and practices have continued to evolve in recent years. They have become more hybrid, increasingly digital and multichannel, with longer and more complex sales cycles and more structured decision-making processes.<sup>1</sup> At the same time, HR practices have progressively shifted towards competency-based and predictive approaches. Several limitations of the previous version were identified. These included the need to modernise certain trait definitions, update some scenarios, improve the readability of results and strengthen integration with competency-based and predictive frameworks.

### Conceptual framework

- Competency-based sales model
- Transversal selling approaches
- Global sales potential indicator

### Scenario design

- Realistic professional situations
- Expert-informed development
- Balanced options reducing social desirability

### Scoring model

- Multi-factor association (MFA)
- Weighted responses
- Sales Potential Indicator

### 2.1. Objectives of the Revision

The revision aimed to modernise how sales potential is interpreted based on current practices, while keeping the existing trait structure and updating the definitions and scenarios. It also introduced a clearer multi-factor approach to reflect how sales behaviours work together, improved the clarity of results, strengthened links to competencies and predictive models, and prepared the framework for integration into the *Key Predict* ecosystem.

### 2.2. Maintained Elements

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<sup>1</sup> Huang, Y. (2020, May). Situation awareness and information fusion in sales and customer engagement: A paradigm shift. In 2020 IEEE Conference on Cognitive and Computational Aspects of Situation Management (CogSIMA) (pp. 113–121).

Several core elements were deliberately kept, such as the overall structure of 4 dimensions and 12 traits remains unchanged and continue to focus on sales potential rather than technical skills or past performance. The scenario-based approach was also preserved as a defining feature. The scenarios are based on realistic and sometimes indirect workplace situations. This helps assess both sales-related and transferable behaviours across many different contexts.

The link between **SALES PROFILE 2**, competencies and predictive models remains consistent with the earlier version. Behavioural traits constitute the measurement level, while competencies represent an interpretation and exploitation level used for job matching, development and predictive purposes. Within the *Key Predict* framework, **SALES PROFILE 2** provides behavioural data that can be combined with other assessments to support a contextualised view of potential.

## 2.3. New Additions to the Assessment

While the trait structure was maintained, trait definitions were clarified and updated to better reflect contemporary sales environments, including digital interactions, multichannel practices and increased relational complexity. Scenarios were also revised to better align with current professional practices, integrating more realistic decision-making situations while maintaining balanced and plausible response options.

### 2.3.1. An Explicit Multi-factor Approach

The revised **SALES PROFILE 2** uses a multi-factor scoring approach. Some scenarios target one trait while also contributing secondarily to other related traits. This reflects the reality of sales situations, where a single action often mobilises several behavioural dimensions at the same time. This approach strengthens behavioural realism and supports more coherent profile interpretation.

### 2.3.2. Differentiating Styles of Sales Action

To make results easier to understand, the revised assessment also introduces sales approaches. These approaches describe dominant styles of action derived

from combinations of trait scores. They are descriptive, non-exclusive and intended to support feedback, coaching and development discussions.

## 3. Definitions

### 3.1. Dimensions and Traits

#### Negotiation skills

Conducting sales discussions to agreement

- **Understanding needs**  
Analysing customer expectations
- **Pitching**  
Linking solutions to needs
- **Closing deals**  
Finalising agreements



#### Commercial Qualities

Personal qualities shaping sales posture

- **Charisma**  
Influencing with confidence
- **Self-control**  
Remaining calm under pressure
- **Sales acumen**  
Enjoyment of selling and negotiating



#### Client Acquisition

Acquiring new customers and business opportunities

- **Approaching clients**  
Initiating contact with prospects
- **Combativeness**  
Persistence to achieve objectives
- **Prospecting**  
Direct acquisition of new customers



#### Business development

Developing long-term client relationships

- **Networking**  
Leveraging professional relationships
- **Customer satisfaction**  
Maintaining service quality and loyalty
- **Strategic selling**  
Managing complex, long-term sales



#### 3.1.1. Client Acquisition

These skills involve actively seeking and acquiring new clients through various methods, including direct outreach and utilising digital platforms when necessary. Salespeople with these skills demonstrate boldness, perseverance and take the initiative to seize new opportunities to reach their objectives.

### *3.1.2. Business Development*

These skills involve nurturing and expanding client relationships and forming strategic partnerships. Salespeople with these skills build networks and maintain trust through consistent, personalised interactions, using both in-person and digital communication to meet client expectations and provide support.

### *3.1.3. Negotiation Skills*

These skills involve acquiring and retaining clients, emphasising the ability to negotiate effectively in order to achieve mutually beneficial agreements. Salespeople with these skills listen to client needs and utilise persuasive techniques to promote products and services so as to secure deals that do not compromise profitability.

### *3.1.4. Commercial Qualities*

These skills include identifying opportunities, assertively pursuing leads, and confidently negotiating deals in order to make sales. Salespeople with these skills show a strong sales drive, resilience, and assertiveness to adapt to different sales environments and clients' needs to sign new deals.

## **3.2. Adjustments Introduced in the Latest Revision**

As part of the **SALES PROFILE 2** revision, several traits were revised to better reflect the evolution of modern sales practices:

- **Approaching clients:** explicit integration of remote interactions (video conferencing and synchronous digital exchanges) as fully fledged ways of initiating business relationships.
- **Prospecting:** extension to digital tools, professional networks and multichannel approaches, beyond traditional telephone prospecting.
- **Networking:** reinforced consideration of social networks and digital interactions in the construction and activation of professional networks.

- **Strategic sales:** stronger emphasis on complexity related to offers, decision-making processes and the involvement of multiple stakeholders.
- **Understanding needs:** greater emphasis on proactive investigation and market analysis approaches.

## 4. Questionnaire Structure

**SALES PROFILE 2** contains a total of 65 items and is presented in a situational, multiple-choice format, with 2-3 options for each item. The average completion time is around 20 minutes, and the items are presented in an ipsative format.

### 4.1. Development of the Scenarios

**SALES PROFILE 2** is built on scenarios designed to assess behaviours and action preferences rather than direct self-descriptions or abstract statements. Most questions represent realistic sales situations for greater ecological validity, and some represent general questions to create variety. Most scenarios follow a structure that combines one response closely related to the trait being assessed, and alternative responses reflecting other credible ways of action. All responses are plausible, reflecting different ways of acting in the same context. There are no right or wrong answers.

Each scenario is primarily designed to assess a target trait, while potentially contributing to related traits, in line with the multi-factor logic. Scenarios are deliberately kept generic rather than tied to specific job titles. This ensures applicability across a wide range of sales-related roles.

A defining feature of **SALES PROFILE 2** lies in the quality of its scenarios. They are:

- grounded in realistic professional situations,
- subtle rather than explicit,
- behaviourally differentiated without being caricatural,
- diverse, covering a wide range of situations and stages of the sales cycle.

This diversity helps avoid redundancy, supports transferability across sales-related roles, and strengthens interpretation by observing behaviours across varied contexts. It also contributes to limiting overly normative responding. In some cases, intermediate responses or social desirability items are included to further limit normative or strategic answering patterns.

### 4.1.1. Direct and Indirect Scenarios

**SALES PROFILE 2** combines direct and indirect scenarios. Direct scenarios explicitly refer to sales situations, such as prospecting activities, sales meetings, client objections or negotiation phases. They place respondents in clearly identifiable commercial contexts. Indirect scenarios are not explicitly framed as sales activities but involve behaviours that are highly transferable to sales contexts, such as taking initiative, building relationships, influencing others or managing pressure. Observing behaviour in these less explicit situations helps limit social desirability effects while capturing underlying behavioural dispositions.

#### Example – Indirect scenario (Approaching clients / Prospecting)

##### **I need to raise money for an association:**



- publish a story online highlighting the merits of the association.
- send marketing emails to institutions.
- meet potential sponsors one by one.

Although not explicitly commercial, this scenario captures preferences for initiating contact and investing effort, which are directly transferable to prospecting situations.

#### Example – Direct sales scenario (Pitching)

##### **During a sales presentation, I notice that a potential client is particularly interested in a specific feature of my product:**



- briefly highlight this feature and continue with the planned presentation.
- focus on this feature, even if it means changing the presentation.

This scenario illustrates how individuals identify and respond to client signals during an interaction.

## **4.2. Behavioural Discrimination and Sensitivity**

Depending on the traits assessed, scenarios do not all serve the same function. Some scenarios are designed to differentiate sales and non-sales populations by mobilising behaviours that are central to commercial activity. Such scenarios typically require initiative, persistence or active engagement, which tends to produce clearer distinctions between profiles. Other scenarios focus on behavioural dimensions that are more transversal and can be meaningfully compared across populations, where behaviours such as listening, relationship quality or emotional regulation are relevant. Overall, scenarios are selected to ensure a balanced level of sensitivity. Situations that are too obvious, overly normative or insufficiently informative are avoided.

# 5. Report Content

## 5.1. Sales Potential Indicator

The Sales Potential Indicator provides a synthetic and interpretable overview of an individual's sales potential. It includes the Sales Potential score (0-100), displayed on a visual scale, a brief definition of Sales Potential and score interpretation comments. The latest revision does not change its purpose, but clarifies and formalises its construction and interpretation, ensuring stronger coherence with *Key Predict's* predictive framework and current modelling practices.

### 5.1.1. Conceptual and Methodological Foundations

The indicator is based on three core principles:

#### **Behavioural measurement as the foundation**

**SALES PROFILE 2** assesses behavioural dispositions through scenario-based traits. These traits remain the primary psychometric level and the most detailed source of information.

#### **Competency-based interpretation**

Trait scores are translated into Sales Model competencies using the Talent Map framework. These competencies are calculated by combining trait scores with specific weightings, offering a practical view of behavioural patterns while still keeping trait-level interpretation as the main reference.

#### **A sales reference model grounded in job analysis**

The Sales Model competencies are selected and weighted using job analysis references, including O\*NET-based descriptors combined across different sales roles. The aim is to highlight competencies that reliably and consistently distinguish sales profiles in a strong and transferable way.

### 5.1.2. Sales Model Competencies (Talent Map)

The Sales Potential Indicator is calculated using Sales Model competencies derived from the Talent Map. These competencies represent the most relevant

dimensions of sales potential in the current model and form the basis of the indicator. The assessment traits capture specific behavioural expressions observed in scenarios, whereas competencies provide a broader and more integrative reading of these behaviours. For example, Prospecting Skills may draw on several traits, such as Prospecting itself, but also Approaching Clients, which captures the ease of initiating contact and engaging others.

Compared to earlier versions of the assessment, the current model offers a clearer, more understandable, and more actionable view of sales potential.

### ***5.1.3. Logic and Indicative Interpretation***

The Sales Potential Indicator is calculated from a weighted combination of sales-related competencies. It follows the dispersion logic used in *Key Predict's* predictive models calibrated from the sales & business development function. Most profiles are distributed around the centre of the scale, while higher scores correspond to increasingly less frequent profiles.

Indicative reading ranges at the current stage are as follows:

|           |                                                                                                                                                                                                                                                                                        |
|-----------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 76 – 100% | <b>Exceptional Sales Potential</b><br>Exceptional and highly developed orientation towards sales-related activity. They combine sustained commercial drive with confident, decisive engagement in demanding client-facing situations                                                   |
| 70 – 75%  | <b>Very Strong Sales Potential</b><br>Very strong and highly consistent orientation towards sales-related activity. They take initiative in client-facing situations and actively drive progress in commercial interactions.                                                           |
| 61 – 69%  | <b>Strong Sales Potential</b><br>Strong and consistently expressed orientation towards sales-related activity. They engage proactively in client-facing situations and maintain a clear focus on advancing commercial objectives.                                                      |
| 56 – 60%  | <b>Good Sales Potential</b><br>Well-developed orientation towards sales-related activity. They are comfortable and assured in client-facing situations and manage commercial exchanges with consistency.                                                                               |
| 53 – 55%  | <b>Above Average Sales Potential</b><br>Stronger and more consistent orientation towards sales-related activity. They engage with confidence in client-facing situations and express relevant behaviours with greater effectiveness.                                                   |
| 50 – 52%  | <b>Average Sales Potential</b><br>Established orientation towards sales-related activity. They are generally able to engage appropriately in standard client-facing situations, while still showing areas that may benefit from further development.                                   |
| 45 – 49%  | <b>Below Average Sales Potential</b><br>Some orientation towards sales-related activity. These behaviours can support effective participation in client-facing situations, although their expression may vary depending on context and expectations.                                   |
| 30 – 44%  | <b>Low Sales Potential</b><br>Modest orientation towards sales-related activity. While some relevant tendencies are present, they are not consistently expressed in client-facing situations.                                                                                          |
| 0 – 29%   | <b>Very Low Sales Potential</b><br>Limited orientation towards sales-related activity and may be less naturally inclined towards sustained client-facing situations. Sales responsibilities may require substantial training, structure and development to be carried out effectively. |

#### 5.1.4. Interpretation and Limits

The Sales Potential Indicator reflects a relative positioning within a standard distribution. It does not constitute a direct prediction of short-term

performance. It must always be interpreted in combination with trait profiles, sales approaches, role and context, experience and complementary assessment data. The indicator supports interpretation and comparison but does not replace professional judgement.

## 5.2. Social Desirability Indicator

**SALES PROFILE 2** also includes a social desirability indicator, based on a score from 0-10. This indicator is based on specific response patterns observed across selected scenarios. These responses correspond to highly normative or idealised behaviours that may appear attractive or exemplary, but are not always representative of real professional practice when chosen systematically.

The social desirability indicator is not an elimination criterion and does not invalidate results. To support interpretation, the average level of the social desirability indicator is provided in the manual and in individual reports. In practice, this average is typically around 2 to 3, depending on the population and context.

### 5.2.1. Control of Social Desirability

**SALES PROFILE 2** does not rely on direct self-descriptions, but rather realistic professional situations and respondents are asked to choose between several plausible ways of acting. As a result, the scenarios are subtle and focused on behavioural differences rather than being overly explicit. The response options present realistic trade-offs seen in real practice, and the situations cover a wide range of contexts and stages of the sales cycle. Indirect scenarios also help capture behaviours that appear outside commercial situations. This design encourages respondents to project their natural tendencies into the situations rather than optimise their answers based on perceived expectations.

### 5.2.2. Interpretation Guidelines

The social desirability indicator should always be interpreted in combination with the:

- overall trait scores,

- coherence of the behavioural profile,
- assessment context and professional background of the respondent.

A higher-than-average score does not imply inaccurate or unreliable results. It indicates a tendency towards normative responding that may warrant closer attention during feedback or follow-up interviews. A score close to the average observed in the population does not require specific caution and can be considered part of a typical response pattern.

### 5.3. Trait Overview Graph

The report then presents a trait overview graph, displayed as a radar graph, showing raw trait scores on a 0–10 scale. This provides an immediate overview and comparison of the individual's results across the 12 traits.

### 5.4. Dimension Graph

A dimension graph is presented next, usually in the form of a bar chart showing results for the main trait dimensions based on the main dimensions, supporting a more synthetic interpretation.

### 5.5. Profile Summary

The report includes a Personalised Analysis section that summarises key strengths and areas for development. This section provides a written synthesis based on the individual's pattern of trait scores. It is intended to highlight dominant behavioural tendencies and identify potential development areas. This synthesis does not replace trait-level interpretation but gives a quick overview of the profile.

### 5.6. Trait Scores

A detailed presentation of trait scores (0-10) is presented for each trait (12 in total), alongside the trait name, definition and personalised comments describing behavioural tendencies of the given scores. The personalised comments are designed to support structured interpretation and feedback.

Each level corresponds to a defined score range and presents a behavioural description reflecting the likely expression of that trait. Lower ranges describe behaviours that may be less frequently expressed or more hesitant in nature, while higher ranges describe stronger, more confident or more consistent behavioural expression. The commentary is phrased in contextual and developmental terms, outlining tendencies that are more or less likely to be observed in professional situations. Trait scores should always be considered in relation to the overall profile and professional context.

## 5.7. Sales Approaches

The report also presents the individual's results across the different sales approaches. For each approach, the report includes a definition of the approach and the main driving traits. This provides a qualitative reading of dominant orientations and is primarily intended to support feedback, coaching and development discussions.

Sales approaches are derived from trait scores, based on combinations of behavioural dimensions and their relative levels of expression. Depending on the profile, the same approach may be expressed more or less strongly or combined with other approaches.

### 5.7.1. Interpretation Principles

Sales approaches should be understood as main action preferences, not fixed categories or job labels. Key principles for interpretation include:

- an individual may express several sales approaches at the same time,
- approaches may vary in their degree of dominance,
- approaches can evolve over time depending on experience, context and role.

## 5.7.2. Main Sales Approaches

The sales approaches described below reflect the diversity of current sales practices. They correspond to preferences in action and posture and may coexist within the same individual.



### **Partnership development**

Building alliances for mutual growth

- Relationship cultivation
- Strategic alignment



### **Business development**

Identifying and capturing new opportunities

- Pipeline expansion
- Market targeting



### **Complex negotiations**

Securing high-value multi-stakeholder agreements

- Conflict resolution
- Strategic compromise



### **Customer success**

Proactive value delivery drives retention

- Long-term growth
- Client guidance



### **Inbound sales / marketing**

Converting organic interest into revenue

- Lead nurturing
- Content-driven conversion



### **Project analysis / Bid Offer MGMT**

Winning proposals through strategic alignment

- RFP compliance
- Competitive positioning



### **Customer service**

Resolving issues, sustaining satisfaction

- Rapid response
- Solution-oriented



### **Public contact (event sales)**

Live engagement converting audience to pipeline

- Live demonstration
- On-site lead generation

#### **Digital influence & networking**

Credibility through strategic digital presence

- Thought leadership
- Platform engagement

#### **Field sales**

In-person setting beyond the office

- Face-to-face engagement
- On-site closing

#### **High-volume prospecting**

Scalable outreach ensuring pipeline consistency

- High-frequency outreach
- Lead qualification

#### **Technical sales**

Expert-led, solution-specific selling

- Technical consulting
- Custom solutions

## 5.8. Talent Map and Predictive Models

**SALES PROFILE 2** results can also be used beyond the report through integration with the Talent Map framework, which combines results from multiple assessments into competency-based scores. This supports a shift from scenario-based behavioural measurement to a broader, competency-level interpretation.

## 6. Development of the Assessment

### 6.1. Theoretical Framework

There are certain personality variables that relate to job performance in sales. Some personality traits and personal characteristics correlate with better sales performance and productivity. For instance, interpersonal versatility<sup>2</sup>, dominance, empathetic listening skills and high achievement striving were all found to lead to better sales performance. Furthermore, successful sales individuals tend to be hard working, seek challenges, be intrinsically motivated, and be focused on customer satisfaction.<sup>3</sup> This also demonstrates that successful sales individuals are adept at recognising opportunities in managing their relationships, are creative, strong communicators, enjoy social situations, exhibit higher levels of assertiveness, and tend to be self-confident.<sup>4</sup>

Studies examining the correlations between the Five Factor Model of personality and performance in sales positions have shown that individuals with higher levels of Extraversion and Conscientiousness and with lower levels of Neuroticism have a better sales performance.<sup>5</sup> Other studies have shown that emotional stability, Agreeableness, and the need for activity lead to more concern for customer satisfaction, and hence better customer service.<sup>6</sup>

Overall, this highlighted the importance for salespeople to be sociable, good communicators and to have the ability to detect sales opportunities as well as to develop networks of influential people and decision-makers.

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<sup>2</sup> Leimbach, M. (n.d.). Master versatility to drive sales results. Wilson Learning Worldwide. (Report discussing interpersonal versatility in sales.)

<sup>3</sup> Barrick, M. R., & Mount, M. K. (1991). The Big Five personality dimensions and job performance: A meta-analysis. *Personnel Psychology*, 44(1), 1–26.

<sup>4</sup> Miner, J. B. (1962). Personality and ability factors in sales performance. *Journal of Applied Psychology*, 46(February), 6–13.

<sup>5</sup> Furnham, A., & Fudge, C. (2008). The Five Factor Model of personality and sales performance. *Journal of Individual Differences*, 29(1), 11–16.

<sup>6</sup> Brown, T. J., Mowen, J. C., Donavan, D. T., & Licata, J. W. (2002). The customer orientation of service workers: Personality trait effects on self- and supervisor performance ratings. *Journal of Marketing Research*, 39(1), 110–119.

## 6.2. Item Creation and Revision

The item revision began with a review of the latest **SALES PROFILE 2** questionnaire to identify which items required modification based on their statistical performance and observed response patterns.

Data from the last version of the assessment were analysed, with a particular focus on item endorsement rates. Items showing highly skewed distributions, limited variability or weak discrimination were examined closely. Where relevant, the ability of certain items to differentiate between Sales and Non-Sales populations was also considered. Items that did not contribute sufficiently to differentiation or construct clarity were revised or removed.

In parallel, items were reviewed against the revised trait definitions to ensure that each scenario accurately reflected the construct it was intended to measure. Wording was adjusted where necessary, and in some cases, scoring allocations were refined to better reflect the strength of alignment between behavioural options and their assigned trait.

Scenarios were updated to reflect contemporary sales environments, including digital and multichannel interactions. Particular attention was paid to realism, clarity, and coherence of wording, which ensured that situations were understandable while preserving credible behavioural distinctions. New items were developed with the multi-factor structure in mind, allowing certain scenarios to contribute to more than one trait where conceptually justified.

The revision process included two structured pretest phases. After each round of testing, items were revised, replaced or removed based on their performance. Multi-factor associations and scoring were confirmed only after this iterative review. After the final pretest, the 5 best-performing items were selected for each trait to construct the final questionnaire.

## 6.3. Translations and Cultural Application

Linguistic equivalence ensures that each scenario and response option conveys the same behavioural meaning across languages, so that observed differences reflect behavioural tendencies rather than language effects.

### *6.3.1. Multilingual Development and Review*

During development and revision, the language translations for the items are closely examined to ensure that:

- the situations described remain realistic and professionally credible
- response options are equally plausible across languages
- the intended behavioural contrasts are preserved

This review process helps limit ambiguities and interpretation differences related to language.

### *6.3.2. Cultural Variations Within the Same Language*

Beyond ensuring equivalence across languages, attention is also given to differences in how the same language may be understood in different cultural contexts. For example, when the assessment is delivered in French, items are carefully reviewed to ensure their meaning is consistent across French-speaking populations. Special care is taken with vocabulary, expressions, and references to professional practices that may vary by region.

### *6.3.3. Statistical Monitoring Across Populations*

In addition to qualitative review, statistical checks are carried out to monitor how items perform across different populations and language versions. Data is therefore analysed independently of language. This aims to detect items that may function differently across languages, such as through unusual response patterns or unexpected score distributions. The goal is not to demonstrate strict statistical invariance, but to ensure that items do not introduce unintended bias between comparable populations. When potential issues are identified, items may be reviewed or adjusted for all languages or the specific language to ensure clarity and consistency while preserving their original behavioural intent.

## 6.4. Pretesting

Prior to final release, **SALES PROFILE 2** underwent a structured pretesting phase to confirm that the assessment functioned as intended across different contexts and respondent dimensions.

Pretesting data were collected through the CINT panel and the Testing Center, allowing the assessment to be administered to participants with varied professional backgrounds. Those who participated in the pretest through CINT were given remuneration for their time taken to complete the assessment. Those who took part via the Testing Center were given a personal report after its completion. Both the English and French versions were tested, with samples including individuals working in Sales roles as well as individuals outside of Sales functions.

The purpose of this pretesting phase was to ensure that items were clearly understood and that they measured the intended constructs as defined in the assessment framework. Data were also used to confirm that items behaved as expected across dimensions with differing professional exposure to sales activities, and that they were appropriately sensitive to relevant differences between respondents. Where necessary, revisions were made to optimise item wording and response options prior to finalisation.

Further details on the analytical procedures and results of the pretesting phase are presented in the following section.

## 6.5. Psychometric Validation

### Sensitivity

- Balanced response distribution
- Empirical variability
- Profile differentiation

### Reliability

- Multidimensional IRT (MIRT)
- Marginal reliability (latent precision)
- Strong overall consistency

### Validity

- Inter-factor coherence
- Confirmatory Factor Analysis (CFA)
- Structured 4-dimensional model

### 6.5.1. Sensitivity

Sensitivity refers to the ability of the assessment to generate sufficient variability in responses, differentiate between individual profiles, and avoid ceiling or floor effects. Scenarios are designed so that:

- all response options remain plausible and professionally acceptable
- no option is systematically perceived as clearly correct or incorrect
- respondents are encouraged to express genuine behavioural preferences rather than normative responses

Where necessary, adjustments were introduced during the revision process to improve sensitivity, including refinement of scenario wording, rebalancing the sensitivity of response options, and replacement or adjustment of scenarios showing insufficient variability.

### 6.5.2. Reliability

Reliability in **SALES PROFILE 2** is defined within a multi-factor and scenario-based framework. Sales behaviours are inherently complex and interdependent, so:

- traits are intentionally interconnected
- scenarios are deliberately diverse
- artificial homogeneity across items is neither expected nor sought

The objective is to ensure coherent, stable and interpretable behavioural measurement. We focused primarily on the coherence between scenarios and their target traits and controlled integration of multi-factor interdependencies.

A single scenario may contribute to the assessment of several traits. This reflects the reality of sales situations, where a single action often shows up in multiple behavioural dimensions. For example, a prospecting scenario involving sales on LinkedIn may primarily assess prospecting orientation, while also contributing to networking.

### 6.5.3. Validity

Validity is examined through several perspectives:

#### **Content validity**

Scenario development was based on a qualitative process involving psychologists and sales professionals. Content validity is ensured by covering key sales behaviours, representing the main stages of the sales cycle, and aligning each scenario with the traits it is meant to assess. Scenarios are chosen for their behavioural relevance and professional realism, rather than relying only on statistics.

#### **Face validity**

Face validity was also assessed during the pretest data collection phase, where participants rated on a 4-point Likert scale their own abilities for each trait. These self-ratings were used to examine the consistency between participants' perceived abilities and the corresponding trait scores, providing additional support for the credibility and relevance of the assessed traits and scenarios.

#### **Construct validity**

Construct validity is ensured by assessing whether the structure of the assessment reflects the intended sales framework. Confirmatory factor analysis is used to evaluate whether scenarios relate to the traits they are designed to measure and whether the overall structure is coherent. Inter-factor correlations are examined to determine whether traits are appropriately related within the broader sales domain while remaining sufficiently distinct to represent different aspects of sales behaviour.

## 7. Administration

**SALES PROFILE 2** is administered online and works with all computer operating systems, including Windows, macOS and Linux. The assessment can be administered remotely without supervision, and reports are solely generated online. Standardised instructions are provided to candidates to ensure consistent testing conditions and comparable results. Completion times are recorded to allow administrators to identify individuals who completed the test within an unusually short or long timeframe. Candidates are encouraged to respond spontaneously, focusing on their interests rather than their knowledge or professional experience.

### 7.1. Technical and Security Issues

The following sections provide recommendations to ensure that the administration of **SALES PROFILE 2** is conducted in a secure, objective and fair manner, while safeguarding candidate information during and after the assessment.

#### 7.1.1. Respecting the Ethical Charter

As a publisher of online assessment tools, *Key Predict* respects the legal conventions of French Labour Law and the regulatory provisions resulting from the law of 6 January 1978 pertaining to information technology, files and freedoms: Declaration N°1834067, and the GDPR (General Data Protection Regulation) regulations made by the European Parliament & Council. Assessment results and candidates' personal data may not be shared with third parties without their explicit consent. Candidates also have the right to access, correct, or delete their data at any time by contacting the evaluator or *Key Predict*.

#### 7.1.2. Confidentiality and Security of User Data

*Key Predict* guarantees the security and confidentiality of data generated during the administration of online tests. Access codes are encrypted in the database and cannot be accessed by anyone. Passwords are computationally generated and are not visible to companies. A URL rewriting module (secure link generator)

is installed and has transparent parameter passing for the user. Browsing and data exchange via the *Key Predict* application can be secured and encrypted using SSL. Secure browsing is guaranteed by the HTTPS protocol, represented by an icon in the form of a padlock in the Internet browser.

The application has a « GeoTrust SSL True BusinessID » digital signature, issued and certified by GeoTrust©. This certificate is irrefutable evidence of our serious attitude towards security and protects all assessments from phishing attacks.

Assessment invitations are sent via secure links that are limited in both usage and duration. Assessment duration and candidates' IP addresses are also recorded to ensure traceability and security.

### **7.1.3. Hardware Architecture and Server Availability**

*Key Predict* uses Google Cloud Platform, offering hosting on the same infrastructure that Google uses internally for products such as its search engine. All servers used are located within the European Union and are run on a Unix/Linux type operating system, featuring:

- 6 Compute Engines
- Load Balancing
- High performance of the SSD disk (680,000 IOPS)
- A 2-hour Incident Response Time
- Monitoring and assistance 24/7/365.

Access to the server administration is restricted to an IP address and is password-secured. Data exchanges are secure. *Key Predict's* application has been tested on and is compatible with the following browsers:

- Firefox 35 or above
- Google Chrome 30 or above
- Safari 11 or above
- Microsoft Edge 12 or higher

### 7.1.4. Computer-generated Reports

Reports are generated within minutes after the questionnaire is completed, both within the application and in PDF format. Their content can be customised according to the administrator's needs. Separate reports can also be configured for the candidate, the company, the recruiter, the coach, or the psychologist.

## 7.2. Response Integrity and Proctoring

**SALES PROFILE 2** includes features that help limit response bias, such as scenario-based items, balanced response options and a Social Desirability Indicator. Proctoring is generally recommended to strengthen response integrity. This may include supervised administration, identity verification or consistency checks across assessment stages.

## 7.3. Supply, Conditions and Availability

Conditions of supply and availability vary from country to country. However, the following points generally apply:

- Training is mandatory before using or distributing **SALES PROFILE 2**.
- **SALES PROFILE 2** can be ordered online or by contacting any *Key Predict* customer service representative or local partner worldwide (customer@centraltest.com).
- For more information about training, pricing, or products and services related to **SALES PROFILE 2**, please contact a local *Key Predict* representative or partner.

## 8. Calculation of Trait Scores

Trait scores represent the degree to which an individual's responses across scenarios align with each of the 12 traits measured by **SALES PROFILE 2**. They reflect observable behavioural tendencies expressed in context, as well as the relative strength of underlying sales-related orientations captured by the assessment.

Items in the questionnaire contain either two or three response options. Each option is coded on a 0–2 scale, reflecting the degree of alignment with the trait being assessed. Some items allow for partial alignment, while others create clearer behavioural contrasts between response options.

The statistical information provided in Section 9 is intended to aid the interpretation of candidate scores.

### 8.1. Raw Scores

For each trait, a raw score is calculated by summing the values of the response options selected by the candidate for all items contributing to that trait. This includes both items primarily designed to assess the trait and items that contribute secondarily within the multi-factor structure.

Each selected response carries a predefined value reflecting its relative alignment with the trait. Options more strongly aligned with the target behaviour receive higher values, while less aligned options receive lower values.

### 8.2. Conversion of Raw Scores to Standard Scores

To facilitate interpretation and comparison across individuals and traits, raw scores are transformed onto a 0–10 scale using a linear rescaling formula:

$$\text{Standard Score} = \left( \frac{\text{raw score} - (\text{min})}{(\text{max}) - (\text{min})} \right) \times 10$$

Where:

- **max** represents the maximum possible raw score for the trait
- **min** represents the minimum possible raw score for the trait

Because traits differ in the number of contributing items and in the distribution of item values, the possible raw score range varies across traits. Converting raw scores to a common 0–10 scale ensures that results are directly comparable across individuals and traits despite these structural differences. This transformation preserves each individual's relative position within the possible score range of a trait while providing a consistent and interpretable reporting scale across the assessment.

## 9. Psychometric Properties

This section presents the empirical evidence supporting the technical quality and measurement properties of **SALES PROFILE 2**, documenting how the assessment functions across its full measurement structure.

While Section 8 describes how trait scores are calculated, Section 9 evaluates the statistical behaviour of items and traits within the broader measurement model, examining internal structure, measurement precision, and stability across demographic groups.

Together, these analyses provide the empirical foundation for interpreting individual results and for supporting the professional use of the assessment.

### 9.1. Sample Descriptives

The sample consisted of  $N = 296$  English speaking candidates ( $n = 167$  males,  $n = 129$  females) ranging in age from 18 to 70 years ( $M = 37.87$ ,  $SD = 11.90$ ). Participants represented a wide range of occupational groups, including technical, administrative, service, managerial and non-managerial roles, and industries such as banking and professional services, marketing and the service sector, manufacturing, and product development.

Education level was coded into six categories: Level 1 (*Master's degree, PhD, Engineering or Business School, MBA*), Level 2 (*Bachelor's degree, first-year Master's*), Level 3 (*two years of vocational or university studies*), Level 4 (*high school diploma*), Level 5 (*trades training or no high school diploma*), and *Students*.

Data were collected from the professional research and sampling firm CINT and our in-house testing platform, Testing Center (EN). Participants from the TC received a report, and those from CINT received monetary compensation for their participation. To ensure data quality, participants whose answers were deemed unreliable or who completed the questionnaire in less than four minutes were excluded from analyses.

Tables 1–5 provide an overview of the sample descriptives.

Table 1. *Gender*

| Gender | N   | %     |
|--------|-----|-------|
| Male   | 167 | 56.42 |
| Female | 129 | 43.58 |

Table 2. *Age groups*

| Age group    | N  | %     |
|--------------|----|-------|
| 18-25        | 41 | 13.85 |
| 26-33        | 82 | 27.70 |
| 34-41        | 81 | 27.36 |
| 42-49        | 37 | 12.50 |
| 50 and above | 55 | 18.58 |

Table 3. *Study level*

| Study level | N  | %     |
|-------------|----|-------|
| Level 1     | 78 | 26.35 |

|         |    |       |
|---------|----|-------|
| Level 2 | 90 | 30.41 |
| Level 3 | 35 | 11.82 |
| Level 4 | 42 | 14.19 |
| Level 5 | 15 | 5.07  |
| Student | 4  | 1.35  |
| NA      | 32 | 10.81 |

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Table 4. *Country of origin*

| Country                    | N | %    |
|----------------------------|---|------|
| Afghanistan                | 1 | 0.34 |
| Congo, Democratic Republic | 2 | 0.68 |
| Denmark                    | 1 | 0.34 |
| France                     | 1 | 0.34 |
| Ghana                      | 1 | 0.34 |
| India                      | 4 | 1.35 |

|                     |     |       |
|---------------------|-----|-------|
| Luxembourg          | 1   | 0.34  |
| Nigeria             | 2   | 0.68  |
| Oman                | 1   | 0.34  |
| Pakistan            | 7   | 2.36  |
| Saudi Arabia        | 2   | 0.68  |
| State of Palestine  | 1   | 0.34  |
| Switzerland         | 1   | 0.34  |
| Tunisia             | 1   | 0.34  |
| Uganda              | 1   | 0.34  |
| United Kingdom      | 209 | 70.61 |
| USA                 | 58  | 19.59 |
| Virgin Islands (UK) | 1   | 0.34  |
| Zimbabwe            | 1   | 0.34  |

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Table 5. *Profession*

| Sales           | N   | %     |
|-----------------|-----|-------|
| Salesperson     | 139 | 46.96 |
| Non-salesperson | 157 | 53.04 |

## 9.2. Norms

This section presents the normative data for **SALES PROFILE 2**. In line with the definitions provided earlier in the manual, norms are reported at two levels: group score norms, followed by trait score norms.

The normative population refers to the larger group that the assessment is intended to represent. It is defined by collecting data from a sufficiently large number of candidates who complete the assessment. From these data, we calculate descriptive statistics that are generalised to reflect what would be expected in the broader population. In this way, the normative population serves as the statistical reference point for interpreting individual scores.

For each **SALES PROFILE 2** trait, the results are summarised through descriptive norms. These include the mean (average score), median (middle score), minimum (lowest observed score), maximum (highest observed score), and the standard deviation (degree of variability). Together, these indices provide an empirical context for interpretation. For example, if the mean score for a trait is 4.5, it shows that individuals in the normative population typically score around 4.5 on that trait. In this way, descriptive norms establish the statistical framework in which individual results can be located and interpreted relative to the broader population distribution.

Tables 6–15 detail the mean (*M*), median (*Md*), minimum (*Min*), maximum (*Max*), and the standard deviation (*SD*) scores on the groups and traits of **SALES PROFILE 2**, for the whole sample, for the different genders, age groups, and

study levels.

Table 6. *Dimension score norms for the whole sample*

| Dimension                           | M    | Md   | Min  | Max  | SD   |
|-------------------------------------|------|------|------|------|------|
| <b>Whole sample norms (N = 296)</b> |      |      |      |      |      |
| Client Acquisition                  | 4.89 | 4.68 | 0.87 | 9.73 | 1.59 |
| Business Development                | 4.98 | 4.90 | 1.80 | 9.20 | 1.38 |
| Negotiation Skills                  | 4.55 | 4.43 | 0.27 | 9.33 | 1.40 |
| Commercial Qualities                | 5.35 | 5.42 | 2.30 | 9.40 | 1.49 |

Table 7. *Dimension score norms by gender*

| Dimension             | M    | Md   | Min  | Max  | SD   |
|-----------------------|------|------|------|------|------|
| <b>Male (N = 167)</b> |      |      |      |      |      |
| Client Acquisition    | 4.84 | 4.70 | 0.87 | 8.90 | 1.49 |
| Business Development  | 4.82 | 4.83 | 1.80 | 9.00 | 1.39 |
| Negotiation Skills    | 4.61 | 4.50 | 1.33 | 7.43 | 1.32 |

|                      |      |      |      |      |      |
|----------------------|------|------|------|------|------|
| Commercial Qualities | 5.15 | 5.27 | 2.40 | 7.83 | 1.31 |
|----------------------|------|------|------|------|------|

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**Female (N = 129)**

|                      |      |      |      |      |      |
|----------------------|------|------|------|------|------|
| Client Acquisition   | 4.93 | 4.67 | 1.40 | 9.73 | 1.67 |
| Business Development | 5.10 | 5.03 | 2.17 | 9.20 | 1.37 |
| Negotiation Skills   | 4.51 | 4.43 | 0.27 | 9.33 | 1.46 |
| Commercial Qualities | 5.50 | 5.50 | 2.30 | 9.40 | 1.60 |

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Table 8. *Dimension score norms by age group*

| Dimension | M | Md | Min | Max | SD |
|-----------|---|----|-----|-----|----|
|-----------|---|----|-----|-----|----|

**18-25 (N = 41)**

|                      |      |      |      |      |      |
|----------------------|------|------|------|------|------|
| Client Acquisition   | 4.48 | 4.47 | 1.73 | 8.27 | 1.52 |
| Business Development | 4.67 | 4.67 | 2.17 | 7.87 | 1.24 |
| Negotiation Skills   | 4.24 | 4.17 | 1.33 | 7.07 | 1.42 |
| Commercial Qualities | 5.26 | 5.30 | 2.30 | 8.73 | 1.47 |

---

**26-33 (N = 82)**

|                      |      |      |      |      |      |
|----------------------|------|------|------|------|------|
| Client Acquisition   | 4.64 | 4.58 | 0.87 | 8.33 | 1.47 |
| Business Development | 4.82 | 4.68 | 1.87 | 7.83 | 1.29 |
| Negotiation Skills   | 4.46 | 4.33 | 1.60 | 9.33 | 1.40 |
| Commercial Qualities | 5.41 | 5.50 | 2.73 | 8.83 | 1.49 |

---

**34-41 (N = 81)**

|                      |      |      |      |      |      |
|----------------------|------|------|------|------|------|
| Client Acquisition   | 4.98 | 4.80 | 2.27 | 9.73 | 1.63 |
| Business Development | 5.07 | 5.10 | 1.83 | 9.00 | 1.36 |
| Negotiation Skills   | 4.59 | 4.50 | 0.27 | 7.43 | 1.46 |
| Commercial Qualities | 5.50 | 5.53 | 2.67 | 9.40 | 1.53 |

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**42-49 (N = 37)**

|                      |      |      |      |      |      |
|----------------------|------|------|------|------|------|
| Client Acquisition   | 5.15 | 4.80 | 1.73 | 9.17 | 1.73 |
| Business Development | 5.08 | 5.00 | 2.07 | 9.20 | 1.49 |
| Negotiation Skills   | 4.60 | 4.77 | 1.77 | 7.17 | 1.37 |
| Commercial Qualities | 5.37 | 5.60 | 2.60 | 8.80 | 1.54 |

---

**50 and above (N = 55)**

|                      |      |      |      |      |      |
|----------------------|------|------|------|------|------|
| Client Acquisition   | 5.27 | 5.23 | 2.40 | 9.13 | 1.59 |
| Business Development | 5.24 | 5.27 | 1.80 | 8.30 | 1.55 |
| Negotiation Skills   | 4.84 | 4.60 | 2.00 | 7.43 | 1.30 |
| Commercial Qualities | 5.08 | 5.27 | 2.40 | 8.17 | 1.41 |

*Table 9. Dimension score norms by study level*

| Dimension | M | Md | Min | Max | SD |
|-----------|---|----|-----|-----|----|
|-----------|---|----|-----|-----|----|

**Level 1 (N = 78)**

|                      |      |      |      |      |      |
|----------------------|------|------|------|------|------|
| Client Acquisition   | 4.61 | 4.60 | 0.87 | 9.73 | 1.56 |
| Business Development | 4.95 | 4.88 | 2.17 | 7.87 | 1.22 |
| Negotiation Skills   | 4.35 | 4.33 | 0.67 | 7.43 | 1.41 |
| Commercial Qualities | 5.28 | 5.40 | 2.60 | 8.83 | 1.52 |

**Level 2 (N = 90)**

|                      |      |      |      |      |      |
|----------------------|------|------|------|------|------|
| Client Acquisition   | 5.07 | 4.80 | 2.27 | 9.17 | 1.56 |
| Business Development | 4.86 | 4.82 | 1.80 | 9.20 | 1.48 |

|                    |      |      |      |      |      |
|--------------------|------|------|------|------|------|
| Negotiation Skills | 4.81 | 4.67 | 1.60 | 9.33 | 1.36 |
|--------------------|------|------|------|------|------|

|                      |      |      |      |      |      |
|----------------------|------|------|------|------|------|
| Commercial Qualities | 5.52 | 5.58 | 2.33 | 8.80 | 1.41 |
|----------------------|------|------|------|------|------|

---

**Level 3 (N = 35)**

|                    |      |      |      |      |      |
|--------------------|------|------|------|------|------|
| Client Acquisition | 5.27 | 4.83 | 2.50 | 8.90 | 1.63 |
|--------------------|------|------|------|------|------|

|                      |      |      |      |      |      |
|----------------------|------|------|------|------|------|
| Business Development | 5.30 | 5.23 | 2.43 | 9.00 | 1.49 |
|----------------------|------|------|------|------|------|

|                    |      |      |      |      |      |
|--------------------|------|------|------|------|------|
| Negotiation Skills | 4.35 | 4.43 | 1.77 | 7.43 | 1.56 |
|--------------------|------|------|------|------|------|

|                      |      |      |      |      |      |
|----------------------|------|------|------|------|------|
| Commercial Qualities | 5.74 | 5.80 | 2.87 | 9.40 | 1.65 |
|----------------------|------|------|------|------|------|

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**Level 4 (N = 42)**

|                    |      |      |      |      |      |
|--------------------|------|------|------|------|------|
| Client Acquisition | 4.82 | 4.67 | 2.03 | 8.27 | 1.50 |
|--------------------|------|------|------|------|------|

|                      |      |      |      |      |      |
|----------------------|------|------|------|------|------|
| Business Development | 5.08 | 4.65 | 2.90 | 8.47 | 1.44 |
|----------------------|------|------|------|------|------|

|                    |      |      |      |      |      |
|--------------------|------|------|------|------|------|
| Negotiation Skills | 4.63 | 4.47 | 1.77 | 7.43 | 1.37 |
|--------------------|------|------|------|------|------|

|                      |      |      |      |      |      |
|----------------------|------|------|------|------|------|
| Commercial Qualities | 4.98 | 4.70 | 2.40 | 7.57 | 1.35 |
|----------------------|------|------|------|------|------|

---

**Level 5 (N = 15)**

|                    |      |      |      |      |      |
|--------------------|------|------|------|------|------|
| Client Acquisition | 4.01 | 3.97 | 1.73 | 6.83 | 1.43 |
|--------------------|------|------|------|------|------|

|                      |      |      |      |      |      |
|----------------------|------|------|------|------|------|
| Business Development | 4.37 | 4.13 | 1.87 | 6.67 | 1.41 |
|----------------------|------|------|------|------|------|

|                      |      |      |      |      |      |
|----------------------|------|------|------|------|------|
| Negotiation Skills   | 4.09 | 4.07 | 2.00 | 5.93 | 1.07 |
| Commercial Qualities | 4.27 | 4.17 | 2.30 | 6.90 | 1.48 |

---

***Student (N = 4)***

|                      |      |      |      |      |      |
|----------------------|------|------|------|------|------|
| Client Acquisition   | 5.22 | 4.87 | 4.27 | 6.87 | 1.17 |
| Business Development | 4.94 | 5.13 | 2.50 | 7.00 | 1.94 |
| Negotiation Skills   | 3.45 | 3.50 | 2.73 | 4.07 | 0.59 |
| Commercial Qualities | 4.55 | 4.57 | 3.27 | 5.80 | 1.28 |

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*Table 10. Dimension score norms by profession*

| Dimension | M | Md | Min | Max | SD |
|-----------|---|----|-----|-----|----|
|-----------|---|----|-----|-----|----|

***Salesperson (N = 139)***

|                      |      |      |      |      |      |
|----------------------|------|------|------|------|------|
| Client Acquisition   | 5.09 | 4.90 | 1.40 | 9.73 | 1.64 |
| Business Development | 5.04 | 5.03 | 1.83 | 9.00 | 1.45 |
| Negotiation Skills   | 4.58 | 4.60 | 1.33 | 7.43 | 1.43 |
| Commercial Qualities | 5.42 | 5.53 | 2.30 | 8.83 | 1.58 |

---

---

***Non-salesperson (N = 157)***

|                      |      |      |      |      |      |
|----------------------|------|------|------|------|------|
| Client Acquisition   | 4.72 | 4.57 | 0.87 | 8.27 | 1.53 |
| Business Development | 4.92 | 4.90 | 1.80 | 9.20 | 1.32 |
| Negotiation Skills   | 4.53 | 4.43 | 0.27 | 9.33 | 1.38 |
| Commercial Qualities | 5.28 | 5.27 | 2.40 | 9.40 | 1.40 |

---

Table 11. *Trait score norms for the whole sample*

| Trait | M | Md | Min | Max | SD |
|-------|---|----|-----|-----|----|
|-------|---|----|-----|-----|----|

***Whole sample (N = 296)***

|                       |      |      |      |       |      |
|-----------------------|------|------|------|-------|------|
| Approaching Clients   | 4.81 | 4.50 | 0.00 | 10.00 | 2.29 |
| Combativeness         | 4.58 | 4.60 | 0.00 | 10.00 | 2.29 |
| Prospecting           | 5.28 | 5.00 | 0.00 | 10.00 | 1.97 |
| Networking            | 5.10 | 5.00 | 1.20 | 10.00 | 1.74 |
| Customer Satisfaction | 4.81 | 5.00 | 0.00 | 10.00 | 2.28 |
| Strategic Selling     | 5.02 | 4.50 | 0.00 | 10.00 | 2.16 |

|                     |      |      |      |       |      |
|---------------------|------|------|------|-------|------|
| Pitching            | 4.97 | 4.00 | 0.00 | 10.00 | 2.24 |
| Understanding Needs | 4.14 | 4.20 | 0.00 | 10.00 | 2.18 |
| Closing Deals       | 4.55 | 4.00 | 0.00 | 10.00 | 2.20 |
| Charisma            | 4.83 | 4.50 | 0.00 | 10.00 | 2.17 |
| Self Control        | 5.57 | 6.00 | 0.00 | 10.00 | 2.39 |
| Sales Acumen        | 5.65 | 5.80 | 0.80 | 10.00 | 2.08 |
| Social Desirability | 2.84 | 2.50 | 0.00 | 8.10  | 1.77 |

Table 12. *Trait score norms by gender*

| Trait | M | Md | Min | Max | SD |
|-------|---|----|-----|-----|----|
|-------|---|----|-----|-----|----|

**Male (N = 167)**

|                     |      |      |      |       |      |
|---------------------|------|------|------|-------|------|
| Approaching Clients | 4.80 | 4.50 | 0.00 | 10.00 | 2.27 |
| Combativeness       | 4.68 | 5.00 | 0.00 | 10.00 | 2.35 |
| Prospecting         | 5.31 | 5.00 | 0.00 | 10.00 | 2.04 |
| Networking          | 5.14 | 5.00 | 1.20 | 10.00 | 1.84 |

|                       |      |      |      |       |      |
|-----------------------|------|------|------|-------|------|
| Customer Satisfaction | 4.87 | 5.00 | 0.00 | 10.00 | 2.22 |
| Strategic Selling     | 5.29 | 5.50 | 0.00 | 10.00 | 2.18 |
| Pitching              | 4.90 | 4.00 | 0.00 | 10.00 | 2.29 |
| Understanding Needs   | 3.91 | 3.30 | 0.00 | 10.00 | 2.23 |
| Closing Deals         | 4.71 | 4.00 | 0.00 | 10.00 | 2.24 |
| Charisma              | 4.96 | 4.50 | 0.00 | 10.00 | 2.22 |
| Self Control          | 5.64 | 6.00 | 0.00 | 10.00 | 2.41 |
| Sales Acumen          | 5.89 | 5.80 | 1.70 | 10.00 | 2.09 |
| Social Desirability   | 3.06 | 3.10 | 0.00 | 6.20  | 1.63 |

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***Female (N = 129)***

|                       |      |      |      |       |      |
|-----------------------|------|------|------|-------|------|
| Approaching Clients   | 4.83 | 4.50 | 0.00 | 10.00 | 2.33 |
| Combativeness         | 4.44 | 4.20 | 0.00 | 9.20  | 2.21 |
| Prospecting           | 5.25 | 5.00 | 0.00 | 10.00 | 1.87 |
| Networking            | 5.05 | 5.00 | 1.20 | 8.80  | 1.62 |
| Customer Satisfaction | 4.73 | 5.00 | 0.00 | 10.00 | 2.37 |

|                     |      |      |      |       |      |
|---------------------|------|------|------|-------|------|
| Strategic Selling   | 4.67 | 4.50 | 0.00 | 10.00 | 2.09 |
| Pitching            | 5.05 | 4.00 | 0.00 | 10.00 | 2.18 |
| Understanding Needs | 4.43 | 4.20 | 0.00 | 10.00 | 2.10 |
| Closing Deals       | 4.36 | 4.00 | 0.00 | 8.00  | 2.14 |
| Charisma            | 4.65 | 4.50 | 0.00 | 10.00 | 2.09 |
| Self Control        | 5.47 | 6.00 | 0.00 | 10.00 | 2.37 |
| Sales Acumen        | 5.34 | 5.00 | 0.80 | 10.00 | 2.03 |
| Social Desirability | 2.56 | 2.50 | 0.00 | 8.10  | 1.90 |

Table 13. *Trait score norms by age group*

| Trait                   | M    | Md   | Min  | Max   | SD   |
|-------------------------|------|------|------|-------|------|
| <b>18 - 25 (N = 41)</b> |      |      |      |       |      |
| Approaching Clients     | 4.28 | 4.50 | 0.00 | 10.00 | 2.36 |
| Combativeness           | 4.11 | 3.30 | 0.00 | 8.30  | 2.25 |
| Prospecting             | 5.06 | 5.80 | 0.00 | 9.20  | 2.10 |

|                       |      |      |      |       |      |
|-----------------------|------|------|------|-------|------|
| Networking            | 4.91 | 5.00 | 1.20 | 8.80  | 1.73 |
| Customer Satisfaction | 4.26 | 4.20 | 0.00 | 8.30  | 2.21 |
| Strategic Selling     | 4.83 | 4.50 | 0.90 | 8.20  | 1.96 |
| Pitching              | 4.73 | 4.00 | 0.00 | 10.00 | 2.27 |
| Understanding Needs   | 3.84 | 4.20 | 0.00 | 9.20  | 2.36 |
| Closing Deals         | 4.15 | 4.00 | 0.00 | 8.00  | 1.97 |
| Charisma              | 4.80 | 4.50 | 0.00 | 8.20  | 1.91 |
| Self Control          | 5.46 | 6.00 | 0.00 | 8.00  | 2.28 |
| Sales Acumen          | 5.51 | 5.80 | 1.70 | 10.00 | 2.20 |
| Social Desirability   | 2.99 | 2.50 | 0.00 | 7.50  | 1.63 |

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**26 - 33 (N = 82)**

|                     |      |      |      |       |      |
|---------------------|------|------|------|-------|------|
| Approaching Clients | 4.61 | 4.50 | 0.00 | 10.00 | 2.32 |
| Combativeness       | 4.22 | 4.20 | 0.00 | 8.30  | 2.07 |
| Prospecting         | 5.09 | 5.00 | 0.00 | 8.30  | 1.82 |
| Networking          | 5.10 | 5.00 | 1.20 | 9.40  | 1.68 |

|                       |      |      |      |       |      |
|-----------------------|------|------|------|-------|------|
| Customer Satisfaction | 4.34 | 4.20 | 0.00 | 10.00 | 2.04 |
| Strategic Selling     | 5.01 | 4.50 | 0.00 | 10.00 | 2.22 |
| Pitching              | 4.54 | 4.00 | 0.00 | 10.00 | 2.13 |
| Understanding Needs   | 4.00 | 4.20 | 0.00 | 10.00 | 2.03 |
| Closing Deals         | 4.83 | 4.00 | 0.00 | 10.00 | 2.35 |
| Charisma              | 4.96 | 4.50 | 0.00 | 10.00 | 2.29 |
| Self Control          | 5.37 | 6.00 | 0.00 | 10.00 | 2.31 |
| Sales Acumen          | 5.91 | 5.80 | 0.80 | 10.00 | 1.97 |
| Social Desirability   | 2.73 | 2.50 | 0.00 | 6.20  | 1.72 |

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**34 - 41 (N = 81)**

|                       |      |      |      |       |      |
|-----------------------|------|------|------|-------|------|
| Approaching Clients   | 4.80 | 4.50 | 0.00 | 10.00 | 2.37 |
| Combativeness         | 4.73 | 5.00 | 0.00 | 9.20  | 2.38 |
| Prospecting           | 5.41 | 5.00 | 0.80 | 10.00 | 1.92 |
| Networking            | 5.19 | 5.00 | 1.20 | 10.00 | 1.76 |
| Customer Satisfaction | 4.77 | 5.00 | 0.00 | 10.00 | 2.22 |

|                     |      |      |      |       |      |
|---------------------|------|------|------|-------|------|
| Strategic Selling   | 5.25 | 5.50 | 1.80 | 10.00 | 2.19 |
| Pitching            | 5.21 | 6.00 | 0.00 | 10.00 | 2.36 |
| Understanding Needs | 3.97 | 4.20 | 0.00 | 10.00 | 2.17 |
| Closing Deals       | 4.59 | 4.00 | 0.00 | 8.00  | 2.08 |
| Charisma            | 4.92 | 4.50 | 0.90 | 10.00 | 2.12 |
| Self Control        | 5.63 | 6.00 | 0.00 | 10.00 | 2.51 |
| Sales Acumen        | 5.95 | 5.80 | 1.70 | 10.00 | 2.09 |
| Social Desirability | 2.95 | 2.50 | 0.00 | 6.20  | 1.86 |

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**42 - 49 (N = 37)**

|                       |      |      |      |       |      |
|-----------------------|------|------|------|-------|------|
| Approaching Clients   | 5.43 | 5.50 | 1.80 | 10.00 | 2.36 |
| Combativeness         | 4.66 | 4.20 | 0.00 | 9.20  | 2.41 |
| Prospecting           | 5.34 | 5.00 | 1.70 | 10.00 | 2.21 |
| Networking            | 5.14 | 4.40 | 2.50 | 10.00 | 1.80 |
| Customer Satisfaction | 5.12 | 5.00 | 0.00 | 10.00 | 2.66 |
| Strategic Selling     | 4.99 | 5.50 | 0.90 | 9.10  | 2.00 |

|                     |      |      |      |       |      |
|---------------------|------|------|------|-------|------|
| Pitching            | 5.03 | 6.00 | 0.00 | 8.00  | 2.65 |
| Understanding Needs | 4.06 | 4.20 | 0.80 | 9.20  | 2.19 |
| Closing Deals       | 4.70 | 4.00 | 0.00 | 8.00  | 2.32 |
| Charisma            | 4.75 | 5.50 | 0.00 | 10.00 | 2.28 |
| Self Control        | 5.73 | 6.00 | 2.00 | 10.00 | 2.46 |
| Sales Acumen        | 5.63 | 5.80 | 2.50 | 10.00 | 2.00 |
| Social Desirability | 3.11 | 3.10 | 0.00 | 6.20  | 1.90 |

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***50 and above (N =55)***

|                       |      |      |      |       |      |
|-----------------------|------|------|------|-------|------|
| Approaching Clients   | 5.13 | 5.50 | 0.00 | 9.10  | 1.95 |
| Combativeness         | 5.18 | 5.00 | 0.80 | 10.00 | 2.34 |
| Prospecting           | 5.51 | 5.00 | 0.00 | 10.00 | 1.99 |
| Networking            | 5.10 | 5.00 | 1.20 | 8.80  | 1.83 |
| Customer Satisfaction | 5.76 | 5.80 | 1.70 | 9.20  | 2.24 |
| Strategic Selling     | 4.85 | 5.50 | 0.00 | 9.10  | 2.31 |
| Pitching              | 5.38 | 6.00 | 2.00 | 8.00  | 1.80 |

|                     |      |      |      |       |      |
|---------------------|------|------|------|-------|------|
| Understanding Needs | 4.86 | 5.00 | 0.00 | 10.00 | 2.21 |
| Closing Deals       | 4.29 | 4.00 | 0.00 | 10.00 | 2.23 |
| Charisma            | 4.54 | 4.50 | 0.90 | 9.10  | 2.20 |
| Self Control        | 5.75 | 6.00 | 0.00 | 10.00 | 2.41 |
| Sales Acumen        | 4.95 | 5.00 | 1.70 | 9.20  | 2.08 |
| Social Desirability | 2.54 | 2.50 | 0.00 | 8.10  | 1.72 |

Table 14. *Trait score norms by study level*

| Trait | M | Md | Min | Max | SD |
|-------|---|----|-----|-----|----|
|-------|---|----|-----|-----|----|

**Level 1 (N = 78)**

|                       |      |      |      |       |      |
|-----------------------|------|------|------|-------|------|
| Approaching Clients   | 4.40 | 4.05 | 0.00 | 10.00 | 2.18 |
| Combativeness         | 4.33 | 4.20 | 0.00 | 9.20  | 2.33 |
| Prospecting           | 5.10 | 5.00 | 0.00 | 10.00 | 2.21 |
| Networking            | 4.95 | 5.00 | 1.20 | 8.80  | 1.75 |
| Customer Satisfaction | 4.54 | 5.00 | 0.00 | 10.00 | 2.11 |

|                     |      |      |      |       |      |
|---------------------|------|------|------|-------|------|
| Strategic Selling   | 5.35 | 5.50 | 1.80 | 10.00 | 2.08 |
| Pitching            | 4.79 | 4.00 | 0.00 | 10.00 | 2.35 |
| Understanding Needs | 3.73 | 3.30 | 0.00 | 9.20  | 2.17 |
| Closing Deals       | 4.51 | 4.00 | 0.00 | 10.00 | 2.05 |
| Charisma            | 4.84 | 4.50 | 0.00 | 10.00 | 2.18 |
| Self Control        | 5.36 | 6.00 | 0.00 | 10.00 | 2.47 |
| Sales Acumen        | 5.65 | 5.80 | 0.80 | 10.00 | 1.94 |
| Social Desirability | 3.19 | 3.80 | 0.00 | 6.20  | 1.83 |

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**Level 2 (N = 90)**

|                       |      |      |      |       |      |
|-----------------------|------|------|------|-------|------|
| Approaching Clients   | 5.09 | 5.00 | 0.00 | 10.00 | 2.20 |
| Combativeness         | 4.96 | 5.00 | 0.00 | 10.00 | 2.39 |
| Prospecting           | 5.15 | 5.00 | 1.70 | 9.20  | 1.77 |
| Networking            | 5.04 | 5.00 | 1.20 | 10.00 | 1.80 |
| Customer Satisfaction | 4.56 | 4.20 | 0.00 | 10.00 | 2.27 |
| Strategic Selling     | 4.98 | 5.50 | 0.90 | 9.10  | 2.09 |

|                     |      |      |      |       |      |
|---------------------|------|------|------|-------|------|
| Pitching            | 4.96 | 4.00 | 0.00 | 10.00 | 2.15 |
| Understanding Needs | 4.32 | 4.20 | 0.80 | 10.00 | 2.12 |
| Closing Deals       | 5.16 | 5.00 | 0.00 | 10.00 | 2.18 |
| Charisma            | 4.83 | 4.50 | 0.00 | 10.00 | 2.14 |
| Self Control        | 5.91 | 6.00 | 0.00 | 10.00 | 2.22 |
| Sales Acumen        | 5.82 | 5.80 | 1.70 | 10.00 | 2.20 |
| Social Desirability | 2.71 | 2.50 | 0.00 | 7.50  | 1.68 |

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**Level 3 (N = 35)**

|                       |      |      |      |       |      |
|-----------------------|------|------|------|-------|------|
| Approaching Clients   | 5.22 | 4.50 | 0.00 | 10.00 | 3.01 |
| Combativeness         | 4.95 | 5.00 | 0.00 | 8.30  | 2.09 |
| Prospecting           | 5.65 | 5.80 | 0.80 | 10.00 | 1.90 |
| Networking            | 5.69 | 5.60 | 2.50 | 10.00 | 2.02 |
| Customer Satisfaction | 5.24 | 5.80 | 0.80 | 10.00 | 2.37 |
| Strategic Selling     | 4.96 | 4.50 | 0.90 | 8.20  | 2.08 |
| Pitching              | 4.86 | 4.00 | 0.00 | 10.00 | 2.58 |

|                     |      |      |      |       |      |
|---------------------|------|------|------|-------|------|
| Understanding Needs | 4.24 | 4.20 | 0.00 | 10.00 | 2.58 |
| Closing Deals       | 3.94 | 4.00 | 0.00 | 8.00  | 2.35 |
| Charisma            | 5.28 | 5.50 | 0.90 | 10.00 | 2.22 |
| Self Control        | 6.06 | 6.00 | 0.00 | 10.00 | 2.50 |
| Sales Acumen        | 5.88 | 5.80 | 1.70 | 10.00 | 2.34 |
| Social Desirability | 2.87 | 2.50 | 0.00 | 8.10  | 1.89 |

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***Level 4 (N = 42)***

|                       |      |      |      |       |      |
|-----------------------|------|------|------|-------|------|
| Approaching Clients   | 4.89 | 5.00 | 1.80 | 9.10  | 2.12 |
| Combativeness         | 4.38 | 4.60 | 0.00 | 9.20  | 2.29 |
| Prospecting           | 5.19 | 5.00 | 1.70 | 9.20  | 1.81 |
| Networking            | 5.02 | 5.00 | 2.50 | 8.80  | 1.60 |
| Customer Satisfaction | 5.24 | 5.00 | 1.70 | 9.20  | 2.47 |
| Strategic Selling     | 4.99 | 4.50 | 0.90 | 10.00 | 2.16 |
| Pitching              | 5.14 | 6.00 | 2.00 | 8.00  | 1.88 |
| Understanding Needs   | 4.74 | 4.20 | 0.00 | 8.30  | 2.11 |

|                     |      |      |      |       |      |
|---------------------|------|------|------|-------|------|
| Closing Deals       | 4.00 | 4.00 | 0.00 | 10.00 | 2.42 |
| Charisma            | 4.34 | 4.50 | 0.90 | 8.20  | 1.90 |
| Self Control        | 5.00 | 6.00 | 0.00 | 10.00 | 2.59 |
| Sales Acumen        | 5.60 | 5.80 | 2.50 | 10.00 | 2.15 |
| Social Desirability | 2.55 | 2.50 | 0.00 | 6.20  | 1.72 |

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***Level 5 (N = 15)***

|                       |      |      |      |      |      |
|-----------------------|------|------|------|------|------|
| Approaching Clients   | 4.31 | 4.50 | 1.80 | 6.40 | 1.73 |
| Combativeness         | 3.45 | 2.50 | 0.00 | 8.30 | 2.31 |
| Prospecting           | 4.29 | 4.20 | 1.70 | 6.70 | 1.69 |
| Networking            | 5.09 | 5.00 | 3.10 | 8.10 | 1.43 |
| Customer Satisfaction | 4.38 | 3.30 | 0.00 | 9.20 | 2.31 |
| Strategic Selling     | 3.63 | 3.60 | 0.00 | 7.30 | 2.27 |
| Pitching              | 4.93 | 4.00 | 2.00 | 8.00 | 2.12 |
| Understanding Needs   | 3.06 | 3.30 | 0.00 | 5.80 | 1.77 |
| Closing Deals         | 4.27 | 4.00 | 2.00 | 6.00 | 1.49 |

|                     |      |      |      |      |      |
|---------------------|------|------|------|------|------|
| Charisma            | 3.86 | 3.60 | 0.00 | 8.20 | 2.14 |
| Self Control        | 4.67 | 6.00 | 0.00 | 8.00 | 2.47 |
| Sales Acumen        | 4.29 | 4.20 | 1.70 | 8.30 | 1.87 |
| Social Desirability | 2.66 | 2.50 | 0.00 | 6.20 | 1.90 |

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***Student (N = 4)***

|                       |      |      |      |      |      |
|-----------------------|------|------|------|------|------|
| Approaching Clients   | 5.45 | 5.45 | 4.50 | 6.40 | 1.10 |
| Combativeness         | 3.95 | 4.15 | 0.80 | 6.70 | 2.52 |
| Prospecting           | 6.25 | 6.65 | 4.20 | 7.50 | 1.58 |
| Networking            | 4.23 | 4.40 | 2.50 | 5.60 | 1.28 |
| Customer Satisfaction | 5.83 | 6.25 | 3.30 | 7.50 | 2.05 |
| Strategic Selling     | 4.78 | 5.00 | 0.00 | 9.10 | 3.75 |
| Pitching              | 4.00 | 3.00 | 2.00 | 8.00 | 2.83 |
| Understanding Needs   | 3.35 | 3.75 | 1.70 | 4.20 | 1.18 |
| Closing Deals         | 3.00 | 3.00 | 0.00 | 6.00 | 2.58 |
| Charisma              | 5.70 | 5.95 | 3.60 | 7.30 | 1.58 |

|                     |      |      |      |      |      |
|---------------------|------|------|------|------|------|
| Self Control        | 4.00 | 5.00 | 0.00 | 6.00 | 2.83 |
| Sales Acumen        | 3.95 | 4.15 | 2.50 | 5.00 | 1.26 |
| Social Desirability | 2.80 | 3.10 | 0.60 | 4.40 | 1.59 |

Table 15. *Trait score norms for profession*

| Trait                        | M    | Md   | Min  | Max   | SD   |
|------------------------------|------|------|------|-------|------|
| <b>Salesperson (N = 139)</b> |      |      |      |       |      |
| Approaching Clients          | 4.99 | 4.50 | 0.00 | 10.00 | 2.41 |
| Combativeness                | 4.89 | 5.00 | 0.00 | 10.00 | 2.30 |
| Prospecting                  | 5.38 | 5.00 | 0.00 | 10.00 | 1.99 |
| Networking                   | 5.23 | 5.00 | 1.20 | 10.00 | 1.86 |
| Customer Satisfaction        | 4.88 | 5.00 | 0.00 | 10.00 | 2.24 |
| Strategic Selling            | 5.01 | 4.50 | 0.00 | 10.00 | 2.10 |
| Pitching                     | 4.96 | 4.00 | 0.00 | 10.00 | 2.25 |
| Understanding Needs          | 4.11 | 4.20 | 0.00 | 10.00 | 2.24 |

|                     |      |      |      |       |      |
|---------------------|------|------|------|-------|------|
| Closing Deals       | 4.66 | 4.00 | 0.00 | 10.00 | 2.22 |
| Charisma            | 4.90 | 4.50 | 0.00 | 10.00 | 2.21 |
| Self Control        | 5.48 | 6.00 | 0.00 | 10.00 | 2.49 |
| Sales Acumen        | 5.88 | 5.80 | 1.70 | 10.00 | 2.09 |
| Social Desirability | 2.95 | 3.10 | 0.00 | 7.50  | 1.71 |

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***Non-salesperson (N = 157)***

|                       |      |      |      |       |      |
|-----------------------|------|------|------|-------|------|
| Approaching Clients   | 4.65 | 4.50 | 0.00 | 10.00 | 2.18 |
| Combativeness         | 4.30 | 4.20 | 0.00 | 9.20  | 2.25 |
| Prospecting           | 5.20 | 5.00 | 0.00 | 10.00 | 1.95 |
| Networking            | 4.99 | 5.00 | 1.20 | 10.00 | 1.63 |
| Customer Satisfaction | 4.75 | 4.20 | 0.00 | 10.00 | 2.33 |
| Strategic Selling     | 5.03 | 5.50 | 0.90 | 10.00 | 2.21 |
| Pitching              | 4.97 | 6.00 | 0.00 | 10.00 | 2.24 |
| Understanding Needs   | 4.16 | 4.20 | 0.00 | 10.00 | 2.14 |
| Closing Deals         | 4.46 | 4.00 | 0.00 | 10.00 | 2.18 |

|                     |      |      |      |       |      |
|---------------------|------|------|------|-------|------|
| Charisma            | 4.76 | 4.50 | 0.00 | 10.00 | 2.13 |
| Self Control        | 5.64 | 6.00 | 0.00 | 10.00 | 2.29 |
| Sales Acumen        | 5.45 | 5.00 | 0.80 | 10.00 | 2.06 |
| Social Desirability | 2.74 | 2.50 | 0.00 | 8.10  | 1.82 |

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### 9.3. Reliability

Reliability refers to the extent to which an assessment is free from error and the degree to which items on a scale measure the same construct. Reliability is important for an assessment as it enables us to have confidence that scores on a test are really typical of an individual's behaviour, interest, attitude or aptitude. A primary concern when developing and using tests is the extent to which random measurement errors influence test performance. If a test is unreliable, it is impossible for it to be valid, as the accuracy of results (validity) depends on the consistency with which the same results are produced. High reliability of an assessment helps to guard against biases that may be caused by errors in human judgment during the recruitment and selection process.

#### 9.3.1. Internal Reliability

Internal reliability is traditionally defined as the degree to which items on a scale are internally consistent and measure the same underlying construct. This definition is appropriate for unidimensional assessments evaluated using classical test theory methods such as Cronbach's alpha.

However, **SALES PROFILE 2** is intentionally multidimensional and uses multi-factor association (MFA), where items may contribute to more than one trait and are weighted according to the scoring model. In such assessments, internal reliability is more appropriately conceptualised as the precision with which latent traits are estimated.

For this reason, reliability was evaluated within a Multidimensional Item Response Theory (MIRT) framework using marginal reliability, which reflects the average precision of the estimated latent scores across the population. Higher marginal reliability values indicate that observed differences in scores are primarily attributable to true differences in the underlying traits rather than measurement error.

Table 16. *Trait marginal reliability*

| Trait                 | MR   |
|-----------------------|------|
| Approaching Clients   | 0.46 |
| Combateness           | 0.52 |
| Prospecting           | 0.30 |
| Networking            | 0.54 |
| Customer Satisfaction | 0.49 |
| Strategic Selling     | 0.61 |
| Pitching              | 0.41 |
| Understanding Needs   | 0.50 |
| Closing Deals         | 0.40 |
| Charisma              | 0.30 |
| Self Control          | 0.47 |
| Sales Acumen          | 0.48 |

Table 17. *Dimension marginal reliability*

| Dimension            | MR   |
|----------------------|------|
| Client Acquisition   | 0.65 |
| Business Development | 0.63 |
| Negotiation Skills   | 0.69 |
| Commercial Qualities | 0.64 |

When all items were considered together, reflecting a general sales construct, **SALES PROFILE 2** demonstrated strong overall measurement precision, with a marginal reliability of 0.84. This suggests substantial shared variance across the items and supports the presence of a strong general sales-related construct underlying the assessment.

At the broader dimension level, marginal reliability values ranged from 0.63 to 0.69, indicating moderate and consistent precision for the four sales dimensions. Marginal reliability was also examined at the individual trait level to assess the precision of each trait score. Reliability estimates ranged from 0.30 to 0.61, reflecting lower to moderate levels of measurement precision across traits. This variation is expected in a multidimensional, profile-based assessment where each trait is measured using a limited number of items and where some items contribute information to more than one latent dimension through the scoring design. As a result, precision is naturally stronger at broader levels of interpretation than at narrower trait levels.

## 9.4. Validity

Validity refers to the extent to which an assessment measures what it is intended to measure and whether score interpretations are well-founded and

meaningful in relation to actual behaviour. In psychometrics, validity concerns the degree to which scientific theory and empirical evidence support the interpretation and use of test scores. While reliability reflects the consistency of measurement, validity addresses the accuracy and appropriateness of the inferences drawn from assessment results. An assessment may yield consistent results without measuring the intended construct; however, valid interpretation of scores depends on an acceptable level of reliability.

According to the Standards for Educational and Psychological Testing (APA, AERA, & NCME, 2014), validation is an ongoing process that involves accumulating evidence to support the intended interpretation and use of assessment scores. Sources of validity evidence include test content, response processes, internal structure, relations to other variables, and consequences of testing. The validation evidence for **SALES PROFILE 2** focuses primarily on internal structure and construct-related evidence.

#### *9.4.1. Construct Validity*

Construct validity refers to the degree to which an assessment accurately measures the theoretical constructs it is designed to assess and supports meaningful interpretation of scores. Establishing construct validity is particularly important for multidimensional assessments that measure complex behavioural competencies, such as sales-related skills, where constructs may be related but conceptually distinct.

For **SALES PROFILE 2**, construct validity was examined using two complementary approaches: inter-factor correlations and confirmatory factor analysis (CFA). Together, these analyses were used to evaluate whether the observed data support the hypothesised structure of the assessment, including the relationships among traits and their organisation into broader dimensions. This evidence provides support for the interpretation of test scores as reflecting coherent, related, and distinct aspects of sales performance.

##### *9.4.1.a. Inter-factor Correlations*

Inter-factor correlations provide evidence for construct validity by examining the degree to which the competencies measured by **SALES PROFILE 2** are related to one another in theoretically meaningful ways. Patterns of correlation help

determine whether traits are appropriately connected—reflecting a common underlying construct—while remaining sufficiently distinct to represent different aspects of sales performance.

The correlation coefficient is a numerical index that quantifies the relationship between two variables and ranges from  $-1$  to  $1$ . Values closer to  $1$  indicate stronger positive relationships, whereas values near  $0$  indicate a weak or no linear relationship. Correlation coefficients do not imply causality; rather, they describe the degree to which two traits tend to vary together and may be influenced by shared or related underlying processes.

Table 18. *Trait Correlations*

| Trait | AC      | COM     | PRO     | NET     | CS    | SS    | PIT    | UN | CD | CHA | SC | SA |
|-------|---------|---------|---------|---------|-------|-------|--------|----|----|-----|----|----|
| AC    | 1       |         |         |         |       |       |        |    |    |     |    |    |
| COM   | 0.22*** | 1       |         |         |       |       |        |    |    |     |    |    |
| PRO   | 0.27*** | 0.40*** | 1       |         |       |       |        |    |    |     |    |    |
| NET   | 0.33*** | 0.32*** | 0.47*** | 1       |       |       |        |    |    |     |    |    |
| CS    | 0.32*** | 0.17**  | 0.24*** | 0.43*** | 1     |       |        |    |    |     |    |    |
| SS    | 0.05    | 0.01    | 0.01*** | 0.05    | 0.05  | 1     |        |    |    |     |    |    |
| PIT   | 0.16**  | 0.22*** | 0.17    | 0.22*** | 0.15* | -0.03 | 1      |    |    |     |    |    |
| UN    | 0.11    | 0.24*** | 0.14**  | 0.10    | 0.02  | 0.11  | 0.18** | 1  |    |     |    |    |

|            |         |         |         |         |        |       |         |        |         |         |        |
|------------|---------|---------|---------|---------|--------|-------|---------|--------|---------|---------|--------|
| <b>CD</b>  | 0.08    | 0.20*** | 0.12*   | 0.05    | -0.01  | 0.01  | 0.03    | 0.11   | 1       |         |        |
| <b>CHA</b> | 0.28*** | 0.25*** | 0.27*   | 0.45*** | 0.16** | 0.01  | 0.21*** | -0.03  | 0.13*   | 1       |        |
| <b>SC</b>  | 0.10    | 0.32*** | 0.15*** | 0.21*** | 0.08   | 0.03  | 0.05    | 0.18** | 0.07    | 0.26*** | 1      |
| <b>SA</b>  | 0.11    | 0.21    | 0.23*** | 0.17**  | 0.04*  | 0.15* | 0.06    | 0.00   | 0.19*** | 0.16**  | 0.10 1 |

Note. \* $p < .05$ , \*\*  $p < .01$ , \*\*\* $p < .001$ .

AC (Approaching Clients); COM (Combateness); PRO (Prospection); NET (Networking); CS (Customer Satisfaction); SS (Strategic Selling); PIT (Pitching); UN (Understanding Needs); CD (Closing Deals); CHA (Charisma); SC (Self Control); SA (Sales Acumen).

Overall, the pattern of correlations indicates that the traits are positively related while remaining distinct, with most correlations falling within the low to moderate range. This suggests that although the traits share common variance related to overall sales performance, each captures distinct aspects of sales-related behaviour, consistent with the theoretical design of the assessment in which dimensions are expected to be related yet conceptually separable. At the same time, the absence of excessively high correlations indicates that the traits are not measuring the same underlying construct, thereby providing evidence for discriminant validity at the trait level.

#### 9.4.1.b. Confirmatory Factor Analysis

Confirmatory factor analysis (CFA) was conducted to examine whether the observed data support the hypothesised internal structure of **SALES PROFILE 2**. CFA examines the relationships between observed item responses and underlying latent constructs to determine whether items load onto the traits they are designed to measure.

Within the context of test validation, CFA provides important evidence for construct validity by assessing the extent to which the organisation of items and traits reflects the intended dimensions of the construct being measured.

**SALES PROFILE 2** is designed as a multidimensional assessment comprising multiple interrelated competencies that reflect distinct but related aspects of sales performance. In line with this design, CFA was used to test whether items load onto their intended traits and whether these traits can be meaningfully represented at different structural levels.

Table 19. *Model fit*

| Trait               | $\chi^2$ | DF   | CFI  | TLI  | RMSEA | p    |
|---------------------|----------|------|------|------|-------|------|
| 12 trait model      | 2075.614 | 1644 | 0.89 | 0.88 | 0.026 | 0.03 |
| 4-dimensional model | 2294.608 | 1704 | 0.88 | 0.87 | 0.034 | 0.03 |
| Single trait model  | 2317.464 | 1710 | 0.88 | 0.88 | 0.027 | 0.03 |

The 12-trait model demonstrated an acceptable overall fit to the data, with a low RMSEA value (0.026) and CFI and TLI values of 0.89 and 0.88, respectively. Although the chi-square test was statistically significant ( $\chi^2 = 2075.614$ ,  $df = 1644$ ,  $p = 0.03$ ), this result is expected given model complexity and sample size. Overall, these findings indicate that the individual traits are measured as intended and represent distinct aspects of sales functioning, supporting a coherent and meaningfully differentiated trait-level structure of the assessment.

The four-dimensional model also showed an acceptable overall fit to the data, with an RMSEA value of 0.034 and CFI and TLI values of 0.88 and 0.87, respectively ( $\chi^2 = 2294.608$ ,  $df = 1704$ ,  $p = 0.03$ ). These results suggest that the individual traits can be meaningfully organised into broader sales dimensions, providing support for the proposed higher-level structure of the assessment.

Finally, the single-trait model demonstrated a comparable level of fit (RMSEA = 0.027; CFI = 0.88; TLI = 0.88;  $\chi^2 = 2317.464$ , df = 1710, p = 0.03), indicating the presence of a general underlying sales-related construct shared across traits. Support for this model justifies the interpretation of an overall score reflecting common variance across all sales-related dimensions.

Taken together, the consistency of model fit across the three CFA structures provides evidence that **SALES PROFILE 2** captures sales functioning at multiple levels of detail, supporting meaningful interpretation at the overall, dimension and individual trait levels.

## 9.5. Measurement Equivalence

Measurement equivalence refers to the extent to which an assessment measures the same constructs in the same way across different groups, such as gender, age group, or other relevant demographic or professional categories. Establishing measurement equivalence is essential to ensure that score differences between groups reflect true differences in the underlying traits, rather than artefacts of the measurement process.

In the context of **SALES PROFILE 2**, measurement equivalence is particularly important to support fair and meaningful interpretation of results across groups. Measurement equivalence exists when individuals from different groups who have the same level of the underlying trait have the same expected scores on the assessment. Evidence of equivalence, therefore, supports the use of the test for comparison and interpretation across groups and contributes to the overall validity of the assessment.

One widely used approach to evaluating measurement equivalence is Differential Item Functioning (DIF) analysis. For **SALES PROFILE 2**, DIF was examined within an IRT framework using the Generalised Partial Credit Model (GPCM) and evaluated separately for each trait. DIF was tested using a likelihood-ratio (LR) procedure, in which item parameters were compared across groups to identify items whose response behaviour differed beyond what would be expected given equal trait levels.

### 9.5.1. DIF Analysis: Gender

For this analysis, the whole sample was divided according to gender: 129 females and 167 males.

Table 20. Coefficient and effect size for DIF items (Gender)

| Trait               | Item | $\chi^2$ | p    | $\Delta R^2$ | Interpretation |
|---------------------|------|----------|------|--------------|----------------|
| Approaching Clients | Q1   | 6.76     | 0.03 | 0.02         | Negligible     |
| Networking          | Q32  | 9.11     | 0.01 | 0.03         | Negligible     |
| Networking          | Q58  | 12.03    | 0.01 | 0.04         | Negligible     |
| Understanding Needs | Q25  | 7.37     | 0.03 | 0.02         | Negligible     |

The analysis identified 4 out of the 65 items with a DIF effect for gender. However, according to Zumbo and Thomas' (1997)<sup>7</sup> classification of effect size, any  $R^2$  under 0.13 is considered negligible. These findings support the conclusion that **SALES PROFILE 2** functions equivalently across gender and provides fair measurement for both males and females.

### 9.5.2. DIF Analysis: Age Group

For this analysis, all age groups were compared against the 26–33 age group to evaluate whether items functioned consistently across age categories after controlling for the underlying sales-related trait.

Table 21. *Coefficient and effect size for DIF items (Age)*

| Trait               | Item | $\chi^2$ | p    | $\Delta R^2$ | Interpretation |
|---------------------|------|----------|------|--------------|----------------|
| Approaching Clients | Q1   | 17.61    | 0.02 | 0.06         | Negligible     |
| Prospecting         | Q60  | 17.41    | 0.03 | 0.06         | Negligible     |
| Prospecting         | Q8   | 21.81    | 0.01 | 0.07         | Negligible     |
| Networking          | Q58  | 22.89    | 0.03 | 0.07         | Negligible     |
| Strategic Selling   | Q37  | 17.15    | 0.03 | 0.05         | Negligible     |
| Closing Deals       | Q2   | 17.44    | 0.03 | 0.06         | Negligible     |
| Self Control        | Q23  | 23.26    | 0.00 | 0.07         | Negligible     |
| Self Control        | Q62  | 17.00    | 0.03 | 0.05         | Negligible     |

The analysis identified 8 out of the 65 items with a DIF effect for age group, though the magnitude of the effects is negligible. These findings support the conclusion that **SALES PROFILE 2** functions equivalently across age groups and provides a fair measurement for individuals of all ages.

<sup>7</sup>Zumbo, B. D., & Thomas, D. R. (1997). *A measure of effect size for a model-based approach for studying differential item functioning (DIF)*. Edgeworth Laboratory for Quantitative Behavioral Science, University of Northern British Columbia.

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