Macau Management Capability Index 2020

澳門管理專業協會
Macau Management Association
Associação de Gestão (Management) de Macau

澳門經濟學會
Associação Económica de Macau
Macau Economic Association

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Contents

1. Introduction

1.1 Research Background

The management capabilities of an organization do not only reflect its competitiveness within the industry and profitability in the market, but also indicates its business capabilities in achieving its own vision, mission, values, strategies and goals. The introduction of products and services with strong competitiveness allows an organization to become market leader in the short-run. However, maintaining a high level of management capabilities is essential to maintain long-term technical advantages. The way to position a competitive product in the market, to create brand value and conduct global marketing are the steps in the value creation process other than technological progress which relies heavily on high level management capabilities. It is also a complex management procedure to turn quality service into core competitiveness, generate creative and diversified business opportunities, or enhance capacity through mergers and acquisitions. As a whole, to manage with culture and establish the knowledge management system is the highest level of management.

To effectively measure the leadership and competitiveness of an enterprise in key management areas, the New Zealand School of Management introduced the Management Capability Index (MCI) in 2003. At present, MCI has also been widely used in countries and regions such as Australia, India, Malaysia, Singapore and Hong Kong Special Administrative Region as a tool to assess the corporate, industry, national and regional management standards.

The Macau Management Association (MMA) officially established the Macau Management Capability Index (MMCI) in 2016. The MMA conducts the MMCI survey every year to review the latest development of management capabilities for the managers of Macau enterprises. Hence, the MMCI has gradually become a benchmark in the continuous performance assessment for the managers of Macau enterprises in different industries, against different management categories. It plays a significant role in analyzing the strength and weakness for the management capacity of Macau enterprises, and contributes to enhancing their competitiveness.

1.2 Research Targets

The research targets of this survey are the managers of Macau enterprises.

1.3 Research Method and Sample Selection

The survey is conducted mainly in the form of paper and online questionnaires. The convenient sampling method is employed by the Macau Management Association and the Macau Economic Association to approach the targets to collect their opinions.

1.4 Distribution of Questionnaires and Respondents' Profiles

The fourth survey of Macau Management Capability Index (MMCI) was conducted in the second quarter of 2020, with a total of 306 respondents who are Chief Executive Officers (CEOs) and senior managers from different organizations in Macau. They were invited to give a score on each of the ten critical categories of management capabilities that contribute to sustainable performance. Each category is comprised of 5-8 statements or subcategories with an assessment scale of 0-100.

Figure 1.4.1 indicates that 56.6% of respondents come from five major industries which are "Gaming" (19.0%), "Human Health and Social Work Activities" (13.1%), "Hotels and Restaurants" (12.7%), "Financial and Insurance Activities" (11.8%) and "Public Utilities" (9.8%)[1].

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[1] Total percentage may not equal to 100% due to rounding.

Figure 1.4.1: Respondents by industry
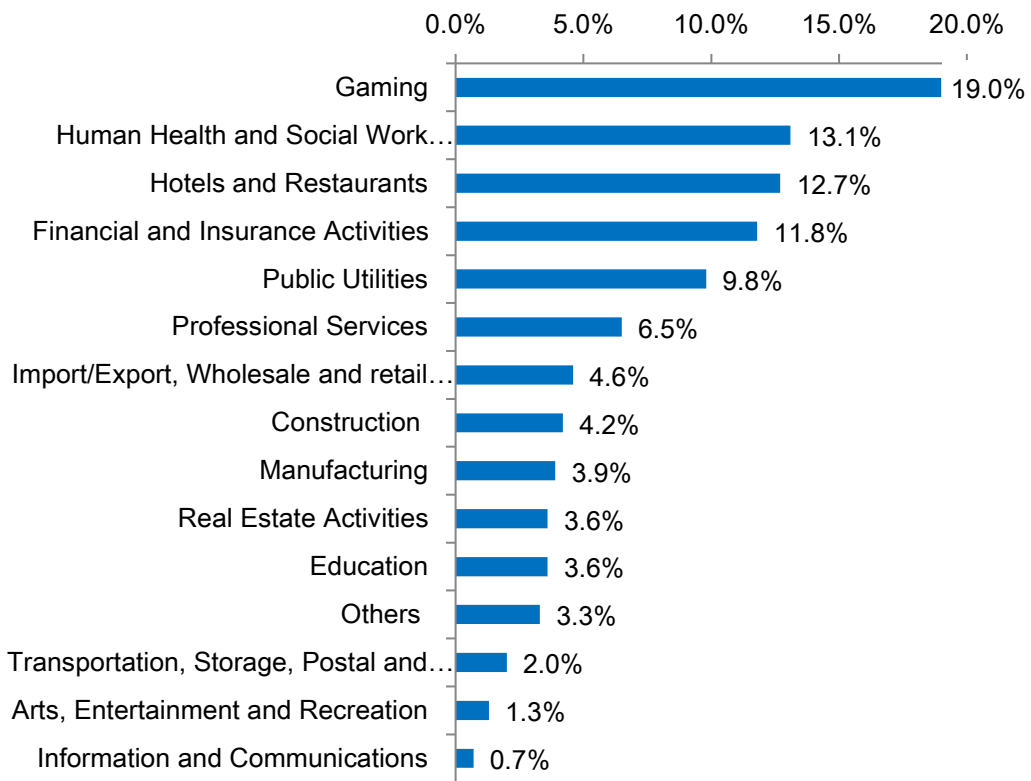
Figure 1.4.2 indicates that 74.2% of respondents come from organizations with 100 or more employees.

Figure 1.4.2: Organization size (by number of employees)
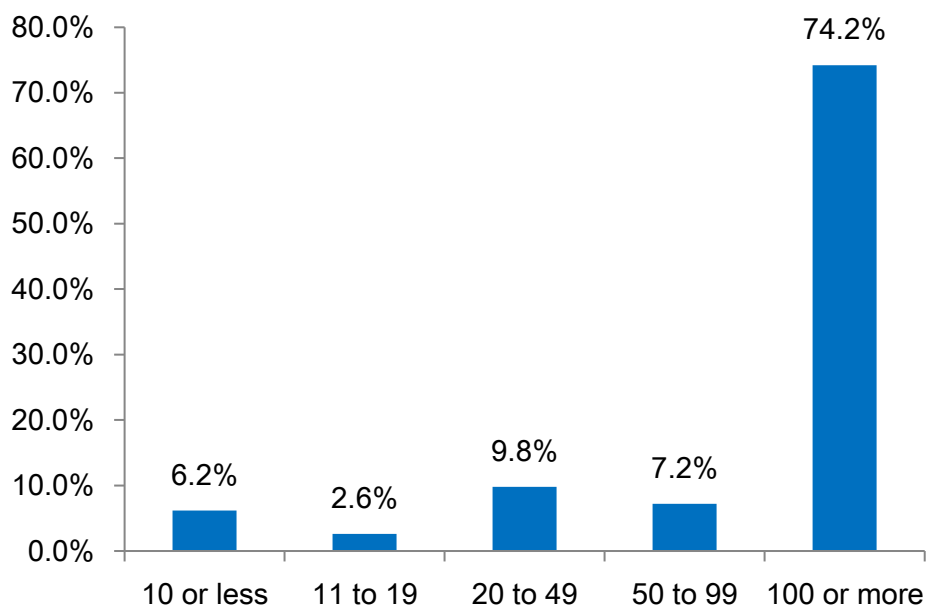
Figure 1.4.3 indicates that most of the respondents (49.7%) are supervisors who "Report to managers" (level 3), the second majority group (33.7%) are supervisors who "Report to CEO/MD/GM/Chairman" (level 2)[2].

Figure 1.4.3: Managerial levels
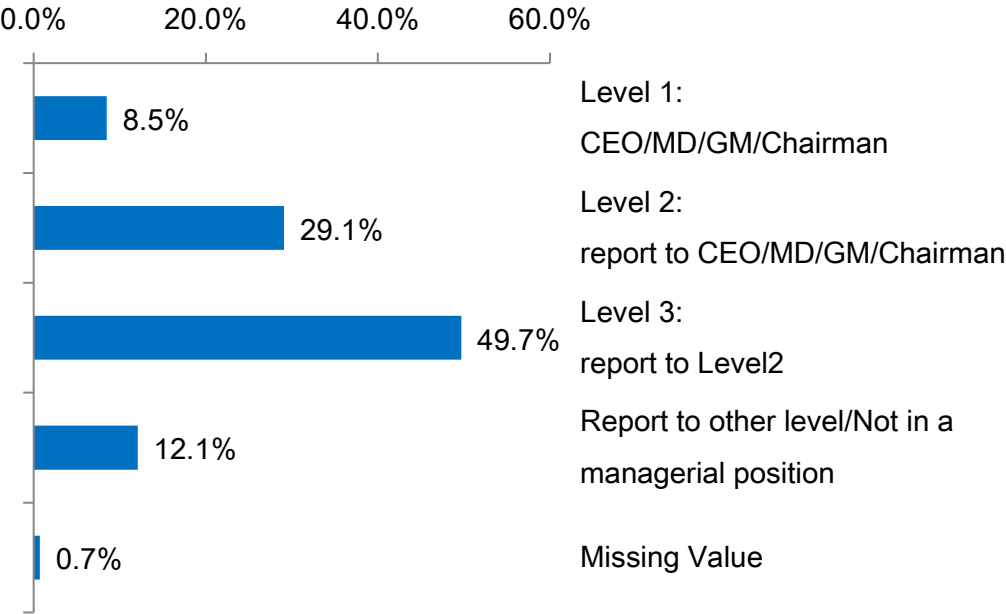
Figure 1.4.4 indicates that most of the respondents (37.3%) have worked in the organization for 10 to 20 years. The second majority group (19.6%) have worked in the organization for more than 20 years[3].

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[2] Total percentage may not equal to 100% due to rounding.
[3] Total percentage may not equal to 100% due to rounding.

Figure 1.4.4: Respondents' years of service
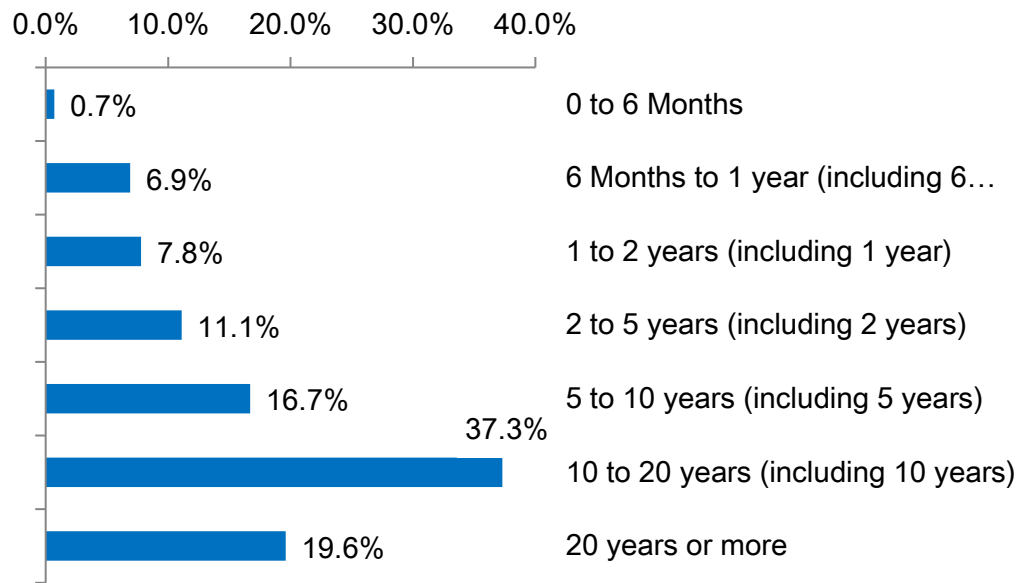
Figure 1.4.5 indicates that there are more male (52.3%) than female respondents (47.7%).

Figure 1.4.5: Gender
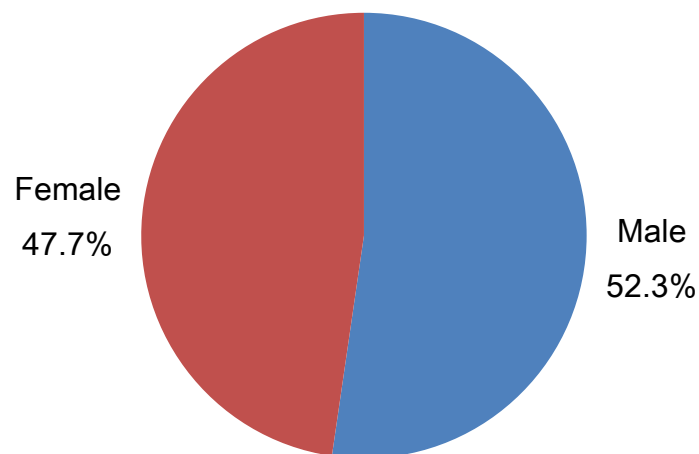
1.5 About the MMCI

The MMCI is measured based on the self-assessment of a CEO (or a senior business decision maker's) in ten essential categories of management capabilities, namely "Visionary and Strategic Leadership", "Performance Leadership", "People Leadership and (Self-) Development", "Financial Leadership",

"Organizational Capability", "Application of Technology and Knowledge", "External Relationships", "Integrity, Trust and Corporate Governance", "Innovation and Adaptability" and "Focus on Getting the Results". Each category comprises of 5-8 subcategories.

The definitions for each of the ten categories of management capabilities making up the MMCI are listed in Appendix 6.1. Their corresponding weight (indicating their degree of importance in the final index) are stated in Table 1.5.1. The original scoring criteria of MMCI has the scale of 0-5, while the 0-100 scoring scale is adopted to exhibit the management performance.

Table 1.5.1: Weighting of ten categories of MMCI

Category	Weighting %
1. Visionary and Strategic Leadership	15%
2. Performance Leadership	10%
3. People Leadership and (Self-) Development	10%
4. Financial Leadership	10%
5. Organizational Capability	5%
6. Application of Technology and Knowledge	5%
7. External Relationships	5%
8. Integrity, Trust and Corporate Governance	10%
9. Innovation and Adaptability	5%
10. Focus on Getting the Results	25%
	100%

Table 1.5.2: Original scoring criteria of MMCI

Score		The current position of the organization
Fully	5	Yes, fully practiced throughout the management team/organization. Continually refined and improved as "the way things are done around here".
	4	Yes, being practiced consistently across the management team/organization, with further improvements being made.
	3	Yes, being practiced across most parts of the management team/organization, most of the time.
	2	Yes, being practiced, but only in parts of the organization or by part of the management, part of the time.
	1	Yes, this has just started.
No	0	No, this is not in place.

Apart from analyzing the overall MMCI, the research team has also conducted the cross-analyses based on the industry, organization size, managerial level, years of service and gender of the respondents.

1.6 Reliability and Validity Analysis of the MMCI Scale

Reliability and validity tests are essential in selecting survey instruments. Reliability refers to the extent that the instrument yields the same results over multiple trials. Cronbach's Alpha coefficient is the most commonly used reliability analysis method. The higher the Cronbach's Alpha coefficient, the higher the internal consistency of the scale and the standard of 0.7 or more is commonly employed in the literature[4].

The reliability analysis of the MMCI scale shows that all Cronbach's Alpha coefficients are above 0.9, which indicates that the internal consistency of the MMCI scale is relatively high.

Table 1.6.1: The reliability analysis of the MMCI Scale

Category	Number of statements	Cronbach's Alpha
Overall	53	0.990
1. Visionary and Strategic Leadership	5	0.890
2. Performance Leadership	5	0.916
3. People Leadership and (Self-) Development	8	0.963
4. Financial Leadership	5	0.930
5. Organizational Capability	5	0.944
6. Application of Technology and Knowledge	5	0.942
7. External Relationships	5	0.915
8. Integrity, Trust and Corporate Governance	5	0.955
9. Innovation and Adaptability	5	0.956
10. Focus on Getting the Results	5	0.946

Validity refers to the extent in which the instrument measures what it was designed to measure. In practice, factor anaylsis is a commonly employed method for making validity tests.

Table 1.6.2: The KMO and Bartlett's Test of the MMCI Scale

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[4] Hee, O. C. (2014). Validity and Reliability of the Customer-Oriented Behaviour Scale in the Health Tourism Hospitals in Malaysia. International Journal of Caring Sciences, 7(3), 771-775.

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.938
Bartlett's Test of Sphericity	Approx. Chi-Square	2.176E4
	df	1378
	Sig.	.000

The Kaiser-Meyer-Olkin (KMO) statistic measures sampling adequacy for each variable in the model. The KMO returns values between 0 and 1. If the KMO statistic has a value between 0.8 and 1, then the sampling method is adequate. In this survey, the KMO statistic is 0.938 and has passed the Bartlett's Test of Sphericity (Sig=0.000<0.05). It reveals that the data is suitable for factor analysis.

2. The Results of MMCI Survey

2.1 Overall Results

The overall score for the Macau Management Capability Index (MMCI) is 71.3 in 2020.

Figure 2.1.1 shows that the highest individual MMCI is recorded in "Integrity and Corporate Governance" (79.6), followed by "External Relationships" (72.7) and "Financial Leadership" &" Application of Technology and Knowledge" (71.9). "Organizational Capability" and "People Leadership and (Self-) Development" have received low scores of 68.8 and 69. The lowest score is recorded in "Innovation and Adaptability" (68.5).

Figure 2.1.1: Overall results
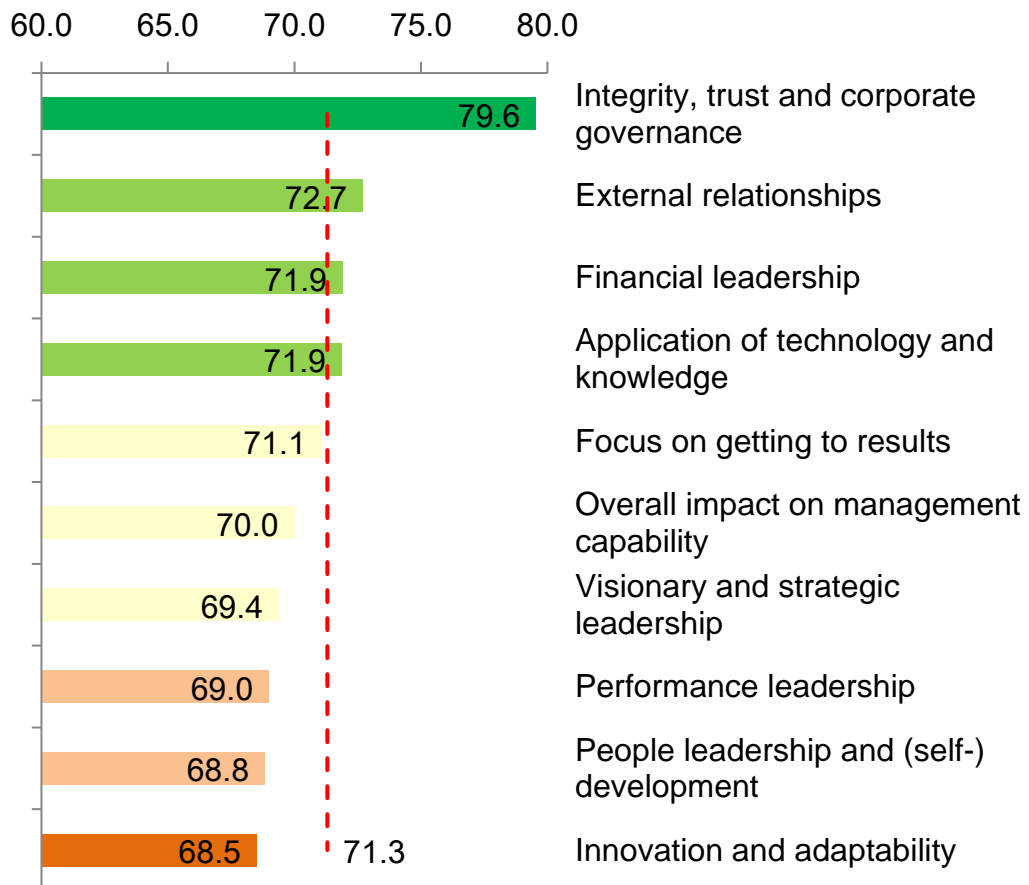
2.2 Subcategories Results

Each of the ten categories of management capabilities is comprised of several statements or subcategories (refer to Appendix 6.2) against which respondents have scored the performance of their organizations. The score for each of these categories (across all survey respondents) and their components are discussed below.

2.2.1 Visionary and Strategic Leadership

As for the five subcategories under "Visionary and Strategic Leadership", on a scale of 0-100, "Management champions change" has got the highest score of 73.2, followed by "Management demonstrates professional and technical" with 72.8 points. Both of them have a score above the overall category score of 68.5. In contrast, "Management demonstrates an international/global perspective and has a good understanding of global markets and global thinking" has the lowest score of 64.2.

Figure 2.2.1: Subcategory results - Visionary and strategic leadership
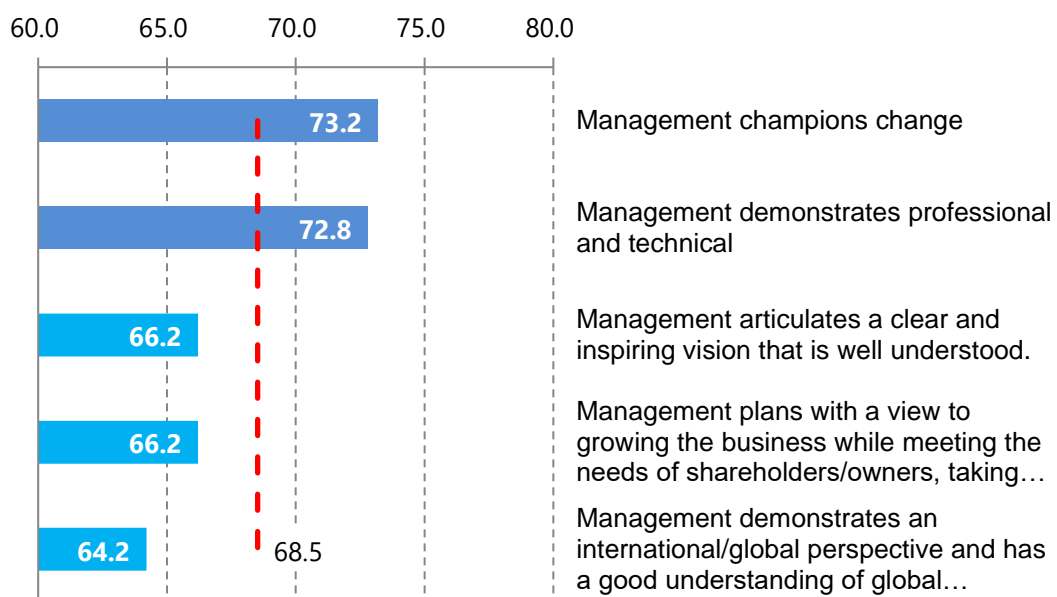
Table 2.2.1: Subcategory results - Visionary and strategic leadership

Subcategory	Score	95% CI	
		Lower bound	Upper bound
Management champions change.	73.2	70.8	75.6
Management demonstrates professional and technical	72.8	70.6	75.0
Management articulates a clear and inspiring vision that is well understood.	66.2	63.8	68.6
Management plans with a view to growing the business while meeting the needs of shareholders/owners, taking into account employee, supplier, customer, and other stakeholder interests.	66.2	63.8	68.6
Management demonstrates an international/global perspective and has a good understanding of global markets and global thinking.	64.2	61.7	66.7

2.2.2 Performance Leadership

Figure 2.2.2 shows that the subcategory "Management analyses issues and anticipates and solves problems" has the highest score of 71.0, followed by "Management demonstrates the ability and attitude to lead and champion the achievement of challenging goals and change" with 70.6 points. Both of them have a score higher than the overall category score of 69.4. In the meantime, the subcategory "Management enables the organization to perform consistently better than its competitors, or other comparable organizations" has the lowest score of 68.0.

Figure 2.2.2: Subcategory results - Performance leadership
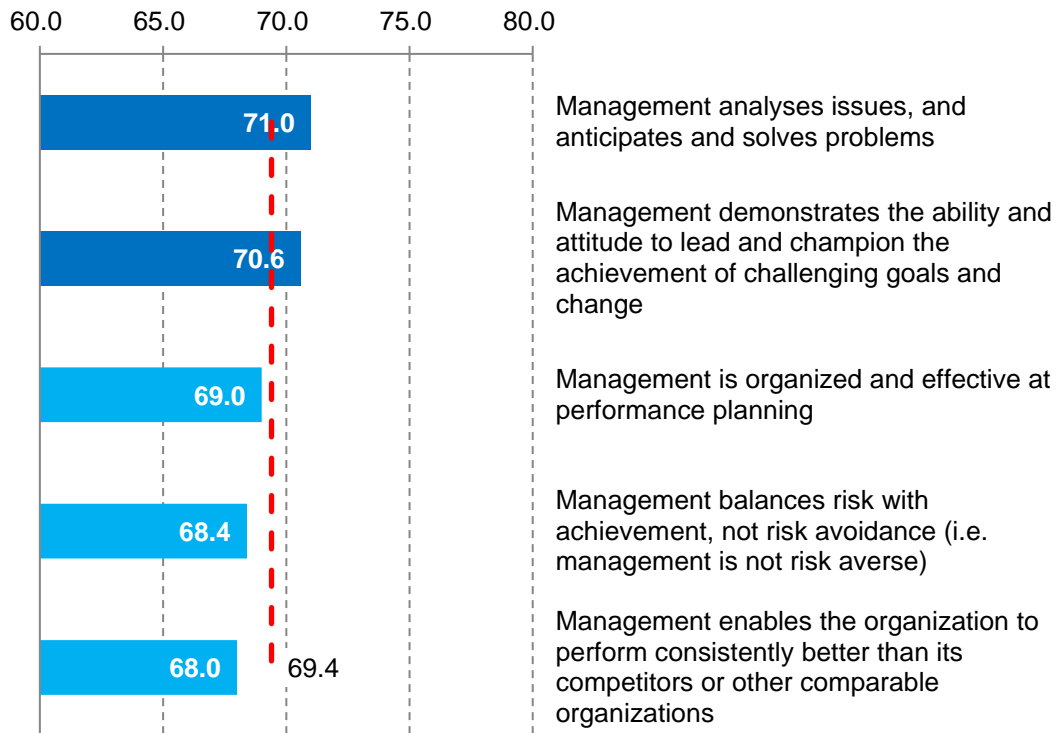
Table 2.2.2: Subcategory results - Performance leadership

Subcategory	Score	95% CI	
		Lower bound	Upper bound
Management analyses issues and anticipates and solves problems.	71.0	68.7	73.3
Management demonstrates the ability and attitude to lead and champion the achievement of challenging goals and change.	70.6	68.4	72.8
Management is organized and effective at performance planning.	69.0	66.6	71.4
Management balances risk with achievement, not risk avoidance (i.e., management is not risk-averse).	68.4	66.1	70.7
Management enables the organization to perform consistently better than its competitors or other comparable organizations.	68.0	65.7	70.3

2.2.3 People Leadership and (Self-) Development

Figure 2.2.3 shows that the subcategory "Management provides rewards and recognition for loyalty and performance" has the highest score with 73.0 points,

followed by "Management collaborates and fosters teamwork" with 72.2 points. The subcategory "Management acts in the team's best interest" has the third highest score with 71.4 points. All of these subcategories have a score above the overall category score of 69.0. Simultaneously, the subcategory "Management practices critical reflection and self-development" has the lowest score of 64.6.

Figure 2.2.3: Subcategory results - People leadership and (self-) development

Score	Subcategory
73.0	Management provides rewards and recognition for loyalty and performance
72.2	Management collaborates and fosters teamwork
71.4	Management acts in the team's best interest
68.8	Management communicates powerfully and broadly to people in the organization
67.8	Management creates a high-performance team
67.6	Management attracts, retains, develops, motivates, inspires and leads an effective team capable of achieving…
66.6	Management respects and maintains a culture supportive and inclusive of employees, their values and their…
64.6	Management practices critical reflection and self-development

Table 2.2.3: Subcategory results - People leadership and (self-) development

Subcategory	Score	95% CI	
		Lower bound	Upper bound
Management provides rewards and recognition for loyalty and performance.	73.0	70.6	75.4
Management collaborates and fosters teamwork.	72.2	69.9	74.5
Management acts in the team's best interest.	71.4	69.1	73.7
Management communicates powerfully and broadly to people in the organization.	68.8	66.4	71.2
Management creates a high-performance team.	67.8	65.5	70.1
Management attracts, retains, develops, motivates, inspires, and leads an effective team capable of achieving organizational objectives.	67.6	65.3	69.9
Management respects and maintains a culture supportive and inclusive of employees, their values, and their diversity - not stifled by structure and hierarchy.	66.6	64.2	69.0
Management practices critical reflection and self-development.	64.6	62.1	67.1

2.2.4 Financial Leadership

Figure 2.2.4 shows that the subcategory "Management develops and commits to plans and goals that support sound growth and continuing performance improvement" has the best score with 74.4 points, followed by "Management has experienced accounting and financial personnel for its financial management" with 71.6 points. "Management practices sound and effective management of the organization, including financial planning, accounting, cash flow management, investment, financial reporting, and liaison with financial institutions" has the third highest score with 71.2 points. All of these subcategories have a score above the overall category score of 71.1. Meanwhile, the subcategory "Management leads and manages the organization to consistently achieve or exceed these goals" has the lowest score of 69.0.

Figure 2.2.4: Subcategory results - Financial leadership
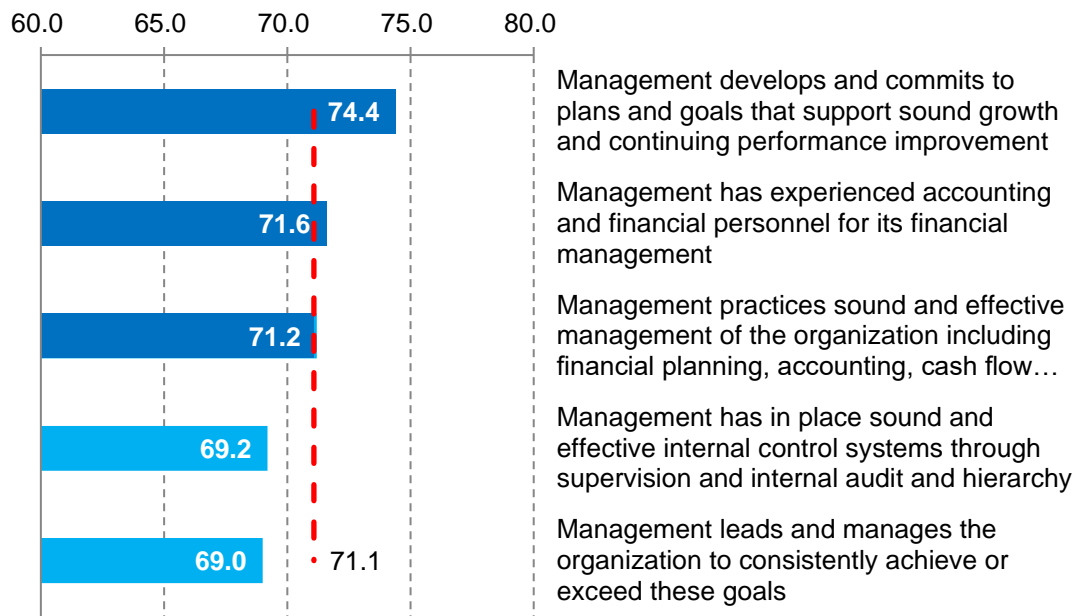
Table 2.2.4: Subcategory results - Financial leadership

Subcategory	Score	95% CI	
		Lower bound	Upper bound
Management develops and commits to plans and goals that support sound growth and continuous performance improvement.	74.4	72.4	76.4
Management has experienced accounting and financial personnel for its financial management.	71.6	69.2	74.0
Management practices sound and effective management of the organization including financial planning, accounting, cash flow management, investment, financial reporting, and liaison with financial institutions.	71.2	69.0	73.4
Management has in place sound and effective internal control systems through supervision and internal audit and hierarchy.	69.2	66.7	71.7
Management leads and manages the organization to consistently achieve or exceed these goals.	69.0	66.8	71.2

2.2.5 Organizational Capability

Table 2.2.5 shows that the subcategory "Management builds organizational capability, a culture of innovation, and dedication to continuous improvement" has the highest score with 70 points, followed by "Management effectively balances strongly effective teams with autonomous individuals" with 69.2 points. Both of

them have a score above the overall category score of 68.8. In contrast, the subcategory "Management has a sound understanding of best management practices to achieve organizational goals and objectives" has the lowest score of 67.6.

Figure 2.2.5: Subcategory results - Organizational capability
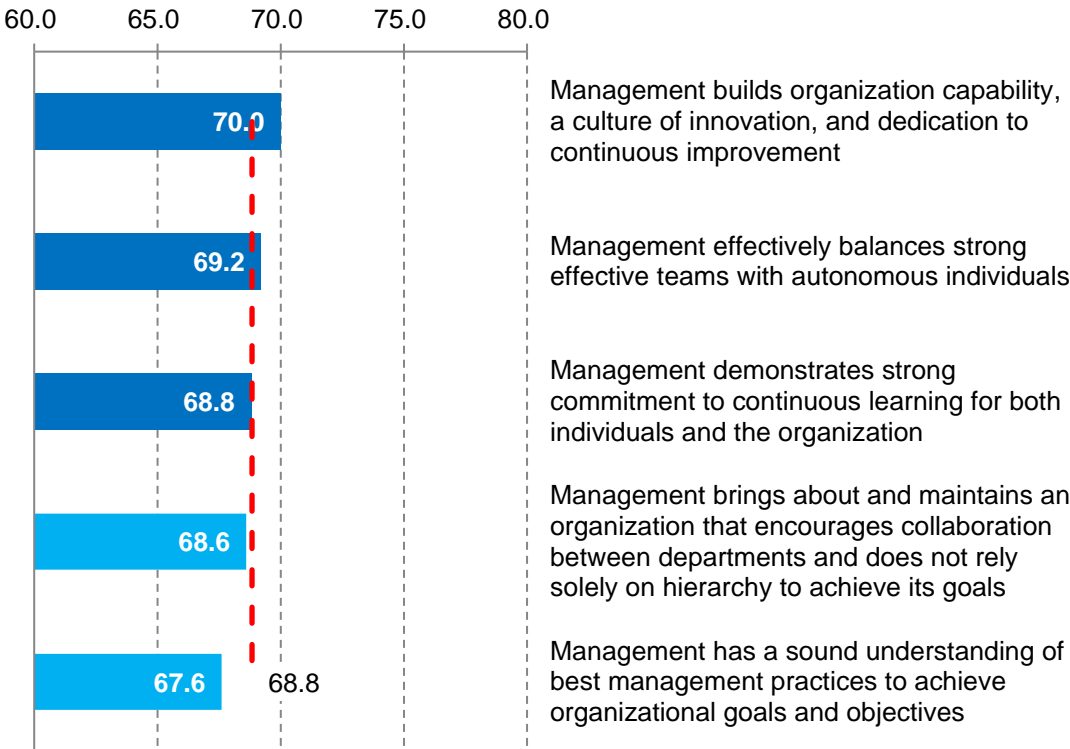
Table 2.2.5: Subcategory results - Organizational capability

Subcategory	Score	95% CI	
		Lower bound	Upper bound
Management builds organizational capability, a culture of innovation, and dedication to continuous improvement.	70.0	67.9	72.1
Management effectively balances strong, effective teams with autonomous individuals.	69.2	67.0	71.4
Management demonstrates a strong commitment to continuous learning for both individuals and the organization.	68.8	66.5	71.1
Management brings about and maintains an organization that encourages collaboration between departments and does not rely solely on the hierarchy to achieve its goals.	68.6	66.5	70.7
Management has a sound understanding of best management practices to achieve organizational goals and objectives.	67.6	65.5	69.7

2.2.6 Application of Technology and Knowledge

Table 2.2.6 indicates that the subcategory "Management understands the need to actively protect information/data in the organization" has the highest score with 74.6 points, followed by "Management understands the value and application of knowledge in organizations" with 74.2 points. The subcategory "Management understands the impact of technology on organizations and on work itself" has the third highest score with 71.4 points. All of these subcategories have a score above the overall category score of 71.9.

The subcategory "Management exploits information technology to bring about a knowledge-driven organization" has the lowest score of 67.6.

Figure 2.2.6: Subcategory results - Application of technology and knowledge

74.6	Management understands the need to actively protect information/data in the organization
74.2	Management understands the value and application of knowledge in organizations
73.4	Management understands the impact of technology on organizations and on work itself
69.6	Management practices knowledge management and promotes a learning organization culture
67.6 71.9	Management exploits information technology to bring about a knowledge-driven organization

60.0   65.0   70.0   75.0   80.0

Table 2.2.6: Subcategory results - Application of technology and knowledge

Subcategory	Score	95% CI	
		Lower bound	Upper bound
Management understands the need to actively protect information/data in the organization	74.6	72.4	76.8
Management understands the value and application of knowledge in organizations	74.2	72.1	76.3
Management understands the impact of technology on organizations and on work itself	73.4	71.2	75.6
Management practices knowledge management and promotes a learning organization culture	69.6	67.3	71.9
Management exploits information technology to bring about a knowledge-driven organization	67.6	65.6	69.6

2.2.7 External Relationships

Figure 2.2.7 shows that the subcategory "Management ensures the organization has a positive external image through the fulfillment of community and social obligations" has the best performance with 76.8 points, followed by "Management ensures the organization has a positive external image through the building of effective relationships with all stakeholders including customers and suppliers" with 75.2 points. Both of them have a score higher than the overall category score of 72.7.

The subcategory "Management encourages employees to engage with external stakeholders" has the lowest score of 67.8.

Figure 2.2.7: Subcategory results - External relationships
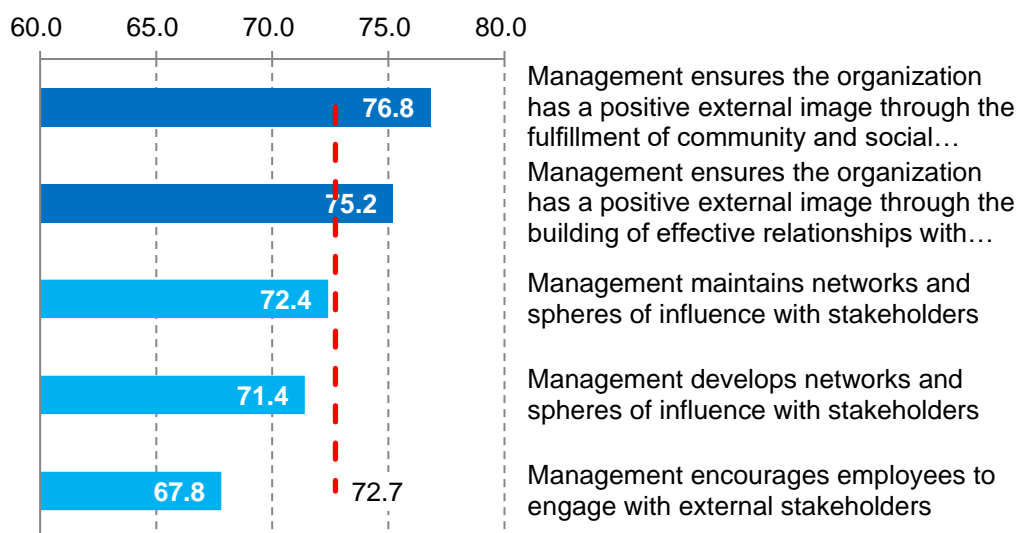
Table 2.2.7: Subcategory results - External relationships

Subcategory	Score	95% CI	
		Lower bound	Upper bound
Management ensures the organization has a positive external image through the fulfillment of community and social obligations	76.8	74.6	79.0
Management ensures the organization has a positive external image through the building of effective relationships with all stakeholders including customers and suppliers	75.2	73.2	77.2
Management maintains networks and spheres of influence with stakeholders	72.4	70.3	74.5
Management develops networks and spheres of influence with stakeholders	71.4	69.3	73.5
Management encourages employees to engage with external stakeholders	67.8	65.5	70.1

2.2.8 Integrity, Trust and Corporate Governance

Figure 2.2.8 shows that the subcategory "The organization practices integrity, honesty and ethical behavior as necessary for sustained success" has the best score with 81.0 points, followed by "Management and employees adhere to legislation, regulations, and guidelines in administering the business of the organization" with 80.2 points. Both of them have a score above the overall category score of 79.6.

The subcategory "The organization promotes an established standard of ethical behavior for directors, management, and employees based on a code of conduct" is the one with the lowest score of 78.6.

Figure 2.2.8: Subcategory results - Integrity, trust, and corporate governance
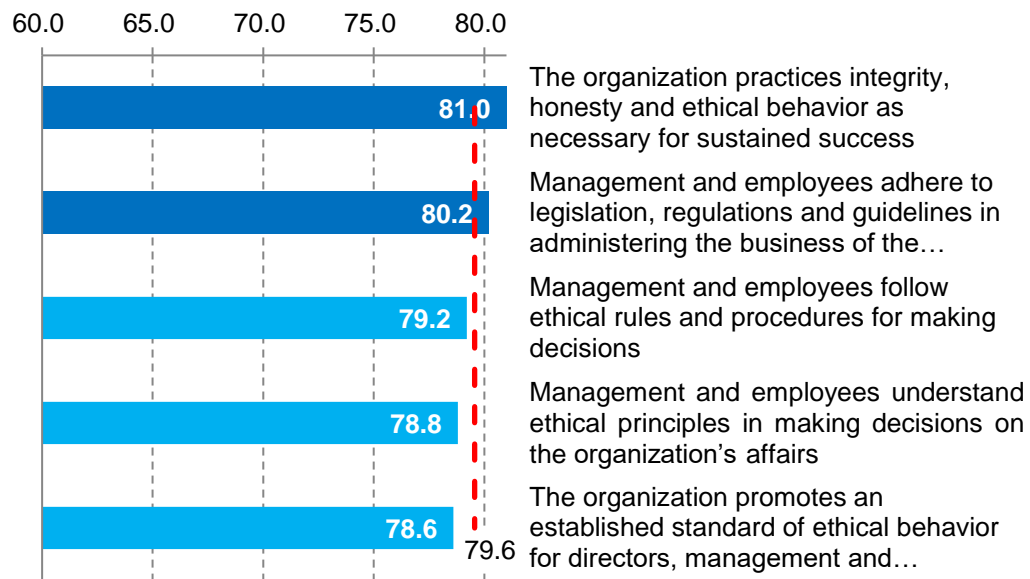
Table 2.2.8: Subcategory results - Integrity, trust, and corporate governance

Subcategory	Score	95% CI	
		Lower bound	Upper bound
The organization practices integrity, honesty and ethical behavior as necessary for sustained success	81.0	79.0	83.0
Management and employees adhere to legislation, regulations, and guidelines in administering the business of the organization	80.2	78.3	82.1
Management and employees follow ethical rules and procedures for making decisions	79.2	77.3	81.1
Management and employees understand ethical principles in making decisions on the organization's affairs	78.8	76.7	80.9
The organization promotes an established standard of ethical behavior for directors, management and employees based on a code of conduct	78.6	76.7	80.5

2.2.9 Innovation and Adaptability

Figure 2.2.9 shows that the subcategory "Management frequently incorporates customer views and priorities into the innovation process" has the highest score with 72.2 points. This is also the only subcategory with a score higher than the

overall category score of 70.0.

The subcategory "Management quickly responds to innovation opportunities" has the lowest score of 69.0.

Figure 2.2.9: Subcategory results - Innovation and adaptability
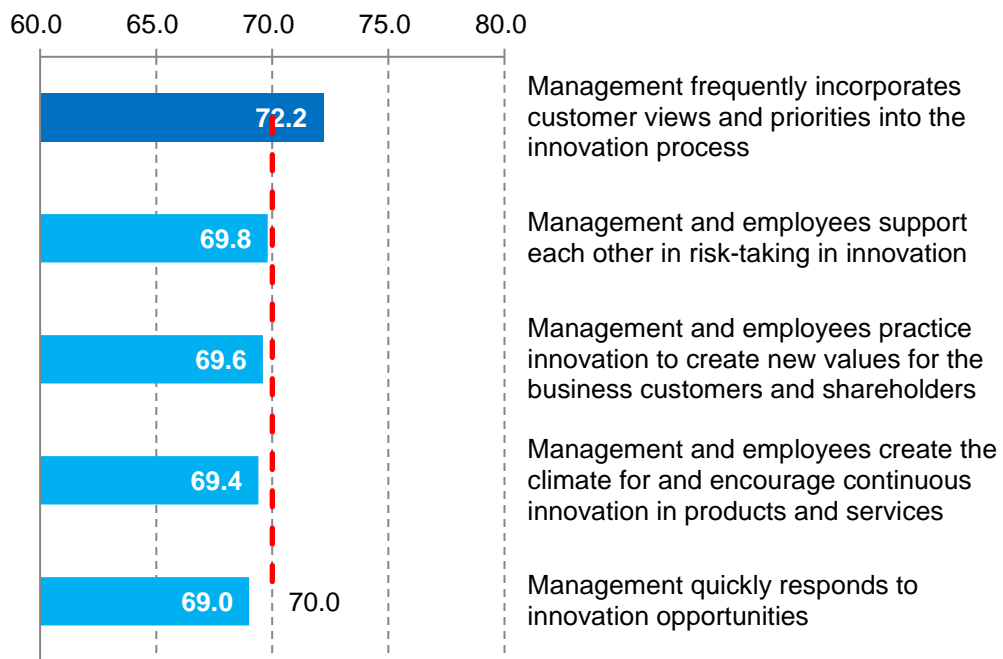
Table 2.2.9: Subcategory results - Innovation and adaptability

Subcategory	Score	95% CI	
		Lower bound	Upper bound
Management frequently incorporates customer views and priorities into the innovation process.	72.2	70.1	74.3
Management and employees support each other in risk-taking in innovation.	69.8	67.5	72.1
Management and employees practice innovation to create new values for business customers and shareholders.	69.6	67.4	71.8
Management and employees create the climate for and encourage continuous innovation in products and services.	69.4	67.1	71.7
Management quickly responds to innovation opportunities.	69.0	66.6	71.4

2.2.10 Focus on Getting the Results

Table 2.2.10 exhibits that the subcategory "Management monitors progress and makes adjustments when needed" has the best performance with 74.2 points, followed by "Management provides frequent feedback to teams" with 73.8 points. The subcategory "Management builds on previous successes and lessons learned" has the third highest score with 71.4 points. All of these subcategories have a score above the overall category score of 71.9.

The subcategory "Management encourages others in the organization to see desired results clearly" has the lowest score of 68.0.

Figure 2.2.10: Subcategory results - Focus on getting the results
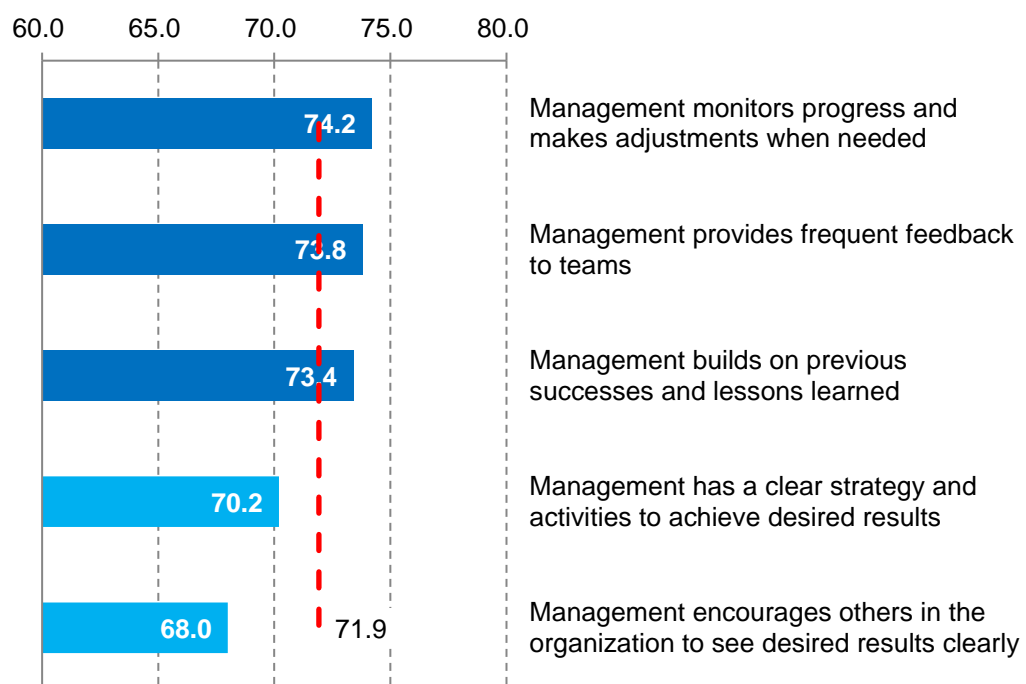
Table 2.2.10: Subcategory results - Focus on getting the results

Subcategory	Score	95% CI	
		Lower bound	Upper bound
Management monitors progress and makes adjustments when needed.	74.2	72.1	76.3
Management provides frequent feedback to teams.	73.8	71.6	76.0
Management builds on previous successes and lessons learned.	73.4	71.2	75.6
Management has a clear strategy and activities to achieve desired results.	70.2	67.9	72.5
Management encourages others in the organization to see desired results clearly.	68.0	65.8	70.2

2.3 Results by Respondents' Profiles

2.3.1 Results by Industry Type

Among the 306 respondents, most of the them (66.3%) come from five major industries including Gaming (58 persons, 19.0%), Human Health and Social Work Activities (40 persons, 13.1%), Hotels and Restaurants (39 persons, 12.7%), Financial and Insurance Activities (36 persons, 11.8%) and Public Utilities (30 persons, 9.8%).

Figure 2.3.1: Results by industry type
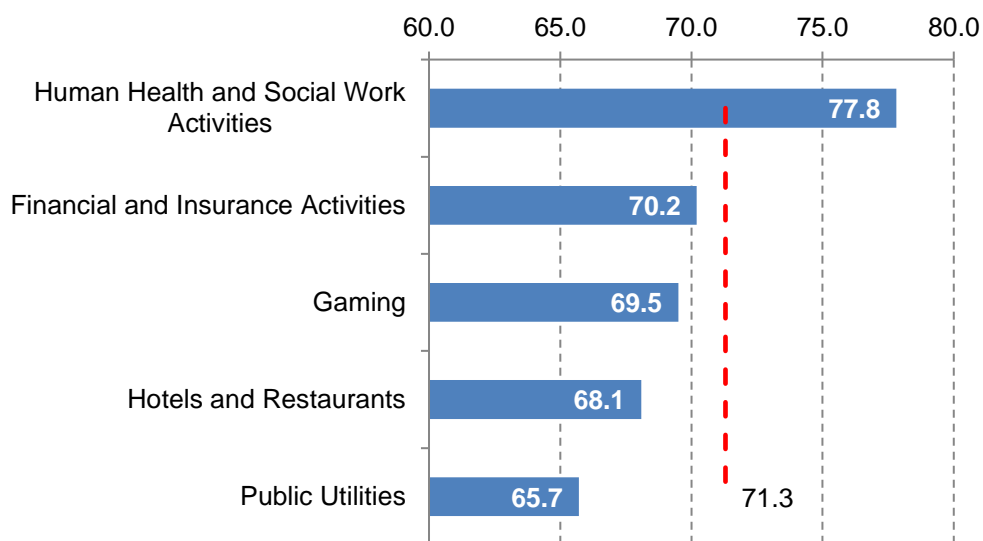
Among these five industries, respondents from "Human Health and Social Work Activities", have given the highest overall mean score of 77.8, which is the only industry with score above the overall MMCI of 71.3. The scores given by those from "Financial and Insurance Activities", "Gaming", "Hotels and Restaurants" and "Public Utilities" are 70.2, 69.5, 68.1 and 65.7, respectively which are lower than the overall MMCI.

Table 2.3.1 indicates the scores given by respondents from different industries. Those from five major industries give a high score in "Integrity, Trust, and Corporate Governance" and "External Relationships", whereas their rating of "Organizational Capability" is low.

Respondents from "Human Health and Social Work Activities" have given high scores in "Integrity, Trust, and Corporate Governance", "External Relationships" and "Application of Technology and Knowledge", with the average marks of 85.8, 81.8, and 80.8. Their rating of "Performance Leadership", "People Leadership and (Self-) Development" and "Organizational Capability" is relatively low, with the average scores of 74.6, 74.6, and 73.6 points.

Respondents from "Financial and Insurance Activities" have given high scores in "Integrity, Trust, and Corporate Governance", "Financial Leadership" and "External Relationships", with the average marks of 77.4, 72.2, and 72.2. Their rating of "Innovation and Adaptability", "Performance Leadership" and "Organizational Capability" is relatively low, with the average scores of 66.9, 66.7, and 66.7 points.

Respondents from "Gaming" have given high scores in "Integrity, Trust, and Corporate Governance", "External Relationships" and "Application of Technology and Knowledge", with the average marks of 76.7, 72.0, and 70.3. Their rating of "Financial Leadership", "Organizational Capability" and "Performance Leadership" is relatively low, with the average scores of 67.8, 67.0, and 66.9 points.

Respondents from "Hotels and Restaurants" have given high scores in "Integrity, Trust, and Corporate Governance", "External Relationships" and "Financial Leadership", with the average marks of 73.6, 70.9, and 67.9. Their rating of

"Application of Technology and Knowledge", "Visionary and Strategic Leadership" and "Organizational Capability" is relatively low, with the average scores of 67.1, 66.8, and 65.4 points.

Respondents from "Public Utilities" have given high scores in" External Relationships", "Integrity, Trust, and Corporate Governance" and "Application of Technology and Knowledge", with the average marks of 74.1, 72.3, and 67.5. Their rating of "People Leadership and (Self-) Development", "Innovation and Adaptability" and "Organizational Capability" is relatively low, with the average scores of 63.5, 61.5, and 61.2 points.

Table 2.3.1: Results by industry type

MMCI by industry worked in	Human Health and Social Work Activities	Financial and Insurance Activities	Gaming	Hotels and Restaurants	Public Utilities
	(n=40)	(n=36)	(n=58)	(n=39)	(n=30)
1. Visionary and Strategic Leadership	75.0	68.0	68.3	66.8	64.1
2. Performance Leadership	74.6	66.7	66.9	67.5	64.5
3. People Leadership and (Self-) Development	74.6	69.9	67.9	67.4	63.5
4. Financial Leadership	76.4	72.2	67.8	67.9	63.8
5. Organizational Capability	73.6	66.7	67.0	65.4	61.2
6. Application of Technology and Knowledge	80.8	70.9	70.3	67.1	67.5
7. External Relationships	81.8	72.2	72.0	70.9	74.1
8. Integrity, Trust and Corporate Governance	85.8	77.4	76.7	73.6	72.3
9. Innovation and Adaptability	77.4	66.9	69.4	67.4	61.5
10. Focus on Getting the Results	79.0	70.2	69.6	67.6	65.9
Overall mean	**77.9**	**70.1**	**69.6**	**68.2**	**65.8**

2.3.2 Results by Organization Size (number of employees)

Table 2.3.2 indicates the scores by organization size with a comparison to the overall MMCI. In this survey, 74.2% of respondents are working in large organizations with 100 or more employees.

Figure 2.3.2: Results by organization size
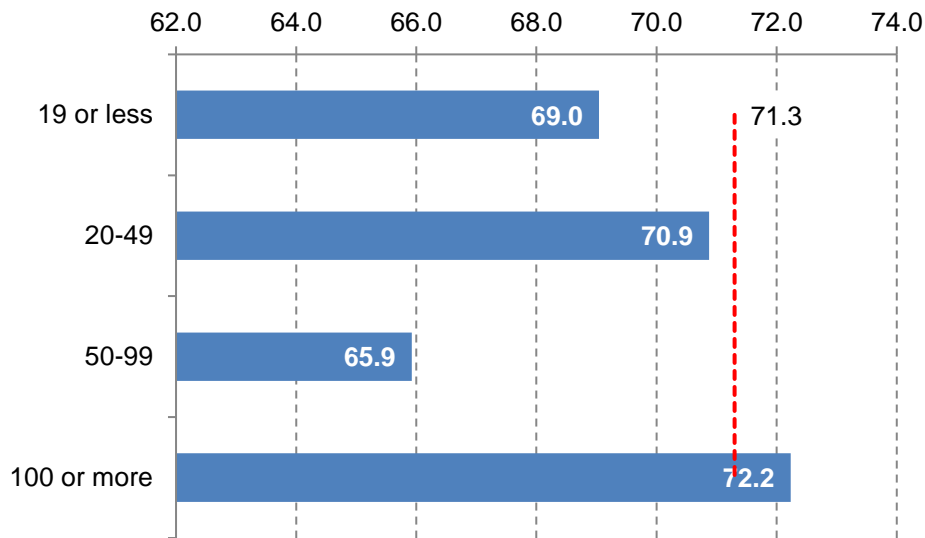
Among respondents from organizations with different size, those from large enterprises with 100 or more have given the best overall mean score of 72.2, which is higher than overall MMCI of 71.3. Respondents from medium, small and micro sized enterprises have graded the management capabilities of their organizations with a score below the overall MMCI. It reveals that large organizations have normally established a stable and comprehensive management system to ensure the efficient operation of the organization.

Regardless the size of their organizations, most of the respondents give high score in "Integrity, Trust and Corporate Governance", "External Relationships" and "Application of Technology and Knowledge".

Respondents working in small companies with 19 or fewer employees give the lowest score (64.4) in "Financial Leadership". Respondents from medium-size companies with 20 to 49 employees and large organizations with 100 or more employees give a low overall score in "Organizational Capability" with the mean

scores of 66.4 and 69.0 respectively. Meanwhile, respondents working in organizations with 50 to 99 employees give the lowest score (61.6) in "Visionary and Strategic Leadership".

Table 2.3.2: Results by organization size (number of employees)

MMCI by organization size	19 or less (n=27)	20-49 (n=30)	50-99 (n=22)	100 or more (n=227)
1. Visionary and Strategic Leadership	67.9	68.3	61.6	70.5
2. Performance Leadership	66.2	67.2	62.5	69.9
3. People Leadership and (Self-) Development	70.7	70.9	64.5	70.5
4. Financial Leadership	64.4	69.7	65.5	71.3
5. Organizational Capability	65.9	66.4	67.6	69.0
6. Application of Technology and Knowledge	72.2	71.5	69.5	73.2
7. External Relationships	71.0	75.5	64.0	75.5
8. Integrity, Trust and Corporate Governance	75.1	74.8	72.7	78.8
9. Innovation and Adaptability	69.5	70.3	63.8	70.9
10. Focus on Getting the Results	69.2	72.8	67.6	72.7
Overall mean	**69.0**	**70.9**	**65.9**	**72.2**

2.3.3 Results by Managerial Level

Table 2.3.3 shows that the overall mean score given by individuals in the "CEO/MD" level (Level 1) is 76.9, which is the highest among the four managerial levels. Besides, they have given high scores in the categories of "People Leadership and (Self-) Development", "Application of Technology and Knowledge" and "Financial Leadership", with the average scores of 82.2, 81.8, and 79.1 points. Their satisfaction of "Integrity, Trust and Corporate Governance", "Performance Leadership" and "Visionary and Strategic Leadership" is lower, with the average scores of 74.8, 74.5, and 72.2 points, respectively.

Respondents in the "Report to CEO / MD" level (Level 2) have given high score in "Integrity, Trust and Corporate Governance", "External Relationships" and "Focus on Getting the Results", with the average scores of 77.3, 73.1, and 71.9 points. Their satisfaction of "People Leadership and (Self-) Development", "Organizational Capability" and "Financial Leadership" is lower, with the average scores of 67.8, 66.5, and 66.2 points, respectively.

Respondents in the "Report to Level 2" level (Level 3) have given high score in "Integrity, Trust and Corporate Governance", "External Relationships" and "Application of Technology and Knowledge", with the average scores of 79.0, 74.9, and 72.6 points. Their satisfaction of "Performance Leadership", "Organizational Capability" and "Visionary and Strategic Leadership" is lower, with the average scores of 68.8, 68.3, and 68.1 points, respectively.

Figure 2.3.3: Results by managerial level

Value	Category
76.9	Level 1: CEO/MD/GM/Chairman
70.2	Level 2: report to CEO/MD/GM/Chairman
71.4	Level 3: report to Level2
70.0	Report to other levels/Not in a managerial position

(Horizontal bar chart, axis from 60.0 to 80.0, with a reference line at 71.3)
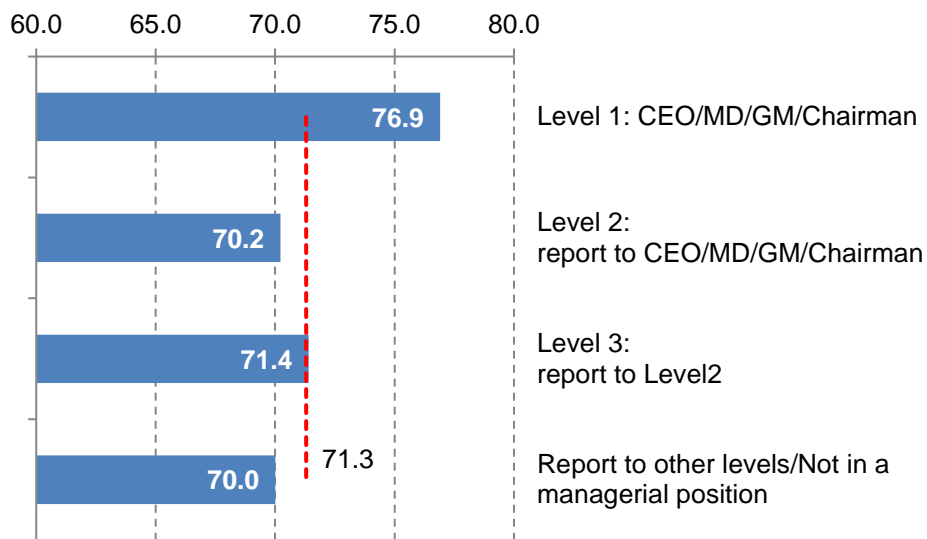
In contrast, the scores given by individuals in "Report to other levels/Not in a managerial position" level are lower than the other managerial levels. Specifically, their rating of "Focus on Getting the Results", "Performance Leadership" and "Organizational Capability" is not satisfactory and the worst in all the managerial levels, with the average scores of 67.9, 66.2, and 65.9 points, respectively.

As a whole, senior manager (Level 1) give higher scores on all the ten critical categories of management capabilities than their subordinates. It indicates that senior managers regard themselves as highly capable in all the management capabilities aspects compared with their subordinates. Such result is attributed to the different viewpoints between senior managers and their subordinates in handling business issues. It is necessary to provide management training to the junior staffs in different management capabilities as listed in the MMCI to strengthen their performance.

Table 2.3.3: Results by managerial level

Results by managerial level	Level 1: CEO/MD/GM/Chairman	Level 2: report to CEO/MD/GM/Chairman	Level 3: report to Level2	Report to other levels/Not in a managerial position
	(n=26)	(n=89)	(n=152)	(n=37)
1. Visionary and Strategic Leadership	72.2	69.3	68.1	72.9
2. Performance Leadership	74.5	68.0	68.8	66.2
3. People Leadership and (Self-) Development	82.2	67.8	69.7	68.5
4. Financial Leadership	79.1	66.2	70.4	71.6
5. Organizational Capability	78.2	66.5	68.3	65.9
6. Application of Technology and Knowledge	81.8	70.7	72.6	71.8
7. External Relationships	75.7	73.1	74.9	73.4
8. Integrity, Trust and Corporate Governance	74.8	77.3	79.0	75.2
9. Innovation and Adaptability	78.8	68.4	70.3	68.0
10. Focus on Getting the Results	77.2	71.9	72.4	67.9
Overall mean	**76.9**	**70.2**	**71.4**	**70.0**

2.3.4 Results by Years of Service

Table 2.3.4 shows that the overall mean score given by individuals who have worked in the organization for more than 20 years is 76.7, which is the highest among the six groups, followed by those with 5-10 years (including 5 years) of service and those with 0-1 year of service. The scores given by them are 75.9 and 71.4 points respectively which are higher than the overall MMCI of 71.3. For the other respondents, the scores given by them are lower than the overall MMCI.

Besides, respondents who have served for 20 years or more in the organization give high scores in the areas of "Integrity, Trust, and Corporate Governance", "External Relationships" and "Application of Technology and Knowledge", with the average marks of 83.9, 82.1, and 79.6 points. In contrast, their rating of "Organizational Capability", "Innovation and Adaptability" and "Performance Leadership" is relatively low, with the average scores of 74.1, 74.1, and 72.7 points.

Respondents who have served for 10 to 20 years (including 10 years) in the organization give high scores in "Integrity, Trust, and Corporate Governance", "Application of Technology and Knowledge" and "External Relationships", with the average marks of 76.8, 72.7, and 72.0 points. In contrast, their rating of "Visionary and Strategic Leadership", "Financial Leadership" and "Innovation and Adaptability" is relatively low, with the average scores of 68.2, 68.1, and 67.9 points.

Respondents who have served for 5 to 10 years (including 5 years) in the organization give high scores in "Integrity, Trust, and Corporate Governance", "Application of Technology and Knowledge" and "External Relationships", with the average marks of 80.7, 78.2, and 78.0 points. In contrast, their rating of "Financial Leadership", "Organizational Capability" and "Performance Leadership" is relatively low, with the average scores of 74.7, 72.7, and 72.5 points.

Respondents who have served for 2 to 5 years (including 2 years) in the organization give high scores in "Integrity, Trust, and Corporate Governance", "External Relationship" and "Focus on Getting the Results" with the average

marks of 75.8, 75.6, and 69.6 points. In contrast, their rating of "Visionary and Strategic Leadership", "Organizational Capability" and "Performance Leadership" is relatively low, with the average scores of 61.8, 61.6, and 61.5 points.

The marks given by respondents who have worked in the organization for 1 to 2 years (including 1 year) are lower than the scores given by those with longer service years. Specifically, their rating of "People Leadership and (Self-) Development", "Performance Leadership", and "Organizational Capability" is lower, with the average scores of 56.2, 54.2, and 52.5 points, respectively.

Respondents who have served for 0 to 6 months in the organization give high scores in "Innovation and Adaptability", "Integrity, Trust, and Corporate Governance" and "Focus on Getting the Results" with the average marks of 74.4, 72.9, and 72.5 points. In contrast, their rating of "Performance Leadership", "Application of Technology and Knowledge" and "External Relationship" is relatively low, with the average scores of 69.6, 69.4, and 68.5 points.

Figure 2.3.4: Results by years of service
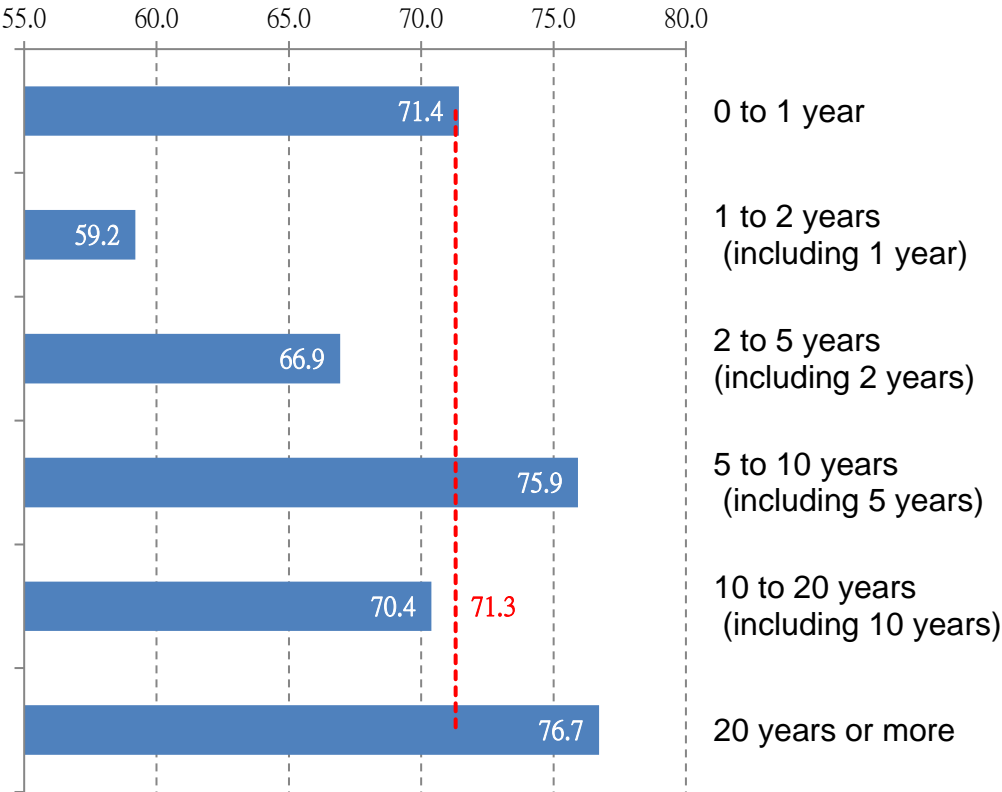
Table 2.3.4: Results by years of service

Results by years of service	0 to 1 year	1 to 2 years (including 1 year)	2 to 5 years (including 2 years)	5 to 10 years (including 5 years)	10 to 20 years (including 10 years)	20 years or more
	(n=23)	(n=24)	(n=34)	(n=51)	(n=114)	(n=60)
1. Visionary and Strategic Leadership	70.3	60.7	61.8	75.2	68.2	74.2
2. Performance Leadership	69.6	54.2	61.5	72.5	70.1	72.7
3. People Leadership and (Self-) Development	72.1	56.2	64.5	74.8	69.9	74.4
4. Financial Leadership	71.8	61.7	66.2	74.7	68.1	75.1
5. Organizational Capability	69.9	52.5	61.6	72.7	68.5	74.1
6. Application of Technology and Knowledge	69.4	58.0	64.7	78.2	72.7	79.6
7. External Relationships	68.5	61.5	75.6	78.0	72.0	82.1
8. Integrity, Trust and Corporate Governance	72.9	66.4	75.8	80.7	76.8	83.9
9. Innovation and Adaptability	74.4	57.3	67.3	76.8	67.9	74.1
10. Focus on Getting the Results	72.5	59.2	69.6	76.3	70.5	77.9
Overall mean	71.4	59.2	66.9	75.9	70.4	76.7

2.3.5 Results by Gender

Table 2.3.5 shows that as a whole, the overall MMCI mean score rendered by male respondents is higher than that from female (71.9 versus 70.8). The deviation is the highest in "Performance Leadership" (70.1 versus 67.4), and the smallest in "Innovation and Adaptability" (70.1 versus 70.2).

Male respondents render favorable review in "Integrity, Trust and Corporate Governance", "External Relationships", and "Focus on Getting the Results", with the average scores of 76.9, 74.7, and 73.0 points. Their rating of "Performance Leadership", "Financial Leadership", and "Organizational Capability" is relatively low, with the average scores of 70.1, 69.8, and 69.0 points, respectively.

Female respondents render favorable review in "Integrity, Trust and Corporate Governance", "External Relationships" and "Application of Technology and Knowledge", with the average scores of 78.4, 73.8, and 72.8 points. Their rating of "Visionary and Strategic Leadership", "Organizational Capability" and "Performance Leadership" is relatively low, with the average scores of 68.3, 67.8, and 67.4 points.

Table 2.3.5: Results by gender

MMCI by gender	Male (n=160)	Female (n=146)
1. Visionary and Strategic Leadership	70.4	68.3
2. Performance Leadership	70.1	67.4
3. People Leadership and (Self-) Development	71.2	68.9
4. Financial Leadership	69.8	70.5
5. Organizational Capability	69.0	67.8
6. Application of Technology and Knowledge	72.5	72.8
7. External Relationships	74.7	73.8
8. Integrity, Trust and Corporate Governance	76.9	78.4
9. Innovation and Adaptability	70.1	70.2
10. Focus on Getting the Results	73.0	71.1
Overall mean	**71.9**	**70.8**

2.4 Comparison of MMCI 2018 and MMCI 2020

Table 2.4.1 shows that the MMCI overall mean is 71.3 in 2020 which outperforms that of 2018. When adjustments have been made on the composition of the subcategories, direct comparison between the MMCI 2018 and MMCI 2020 is not adequate. Whereas, comparison can still be made between the category score and the MMCI overall mean. As an example, for "Integrity, Trust and Corporate Governance", the score recorded in 2018 was 7.7% above the MMCI overall mean of the year. This category receives a score which is 11.7% better than the MMCI overall mean in 2020. It suggests that the performance of"Integrity, Trust and Corporate Governance" in 2020 is better than that in 2018. Improvement is also observed in "Application of Technology and Knowledge", "External Relationship" and "Focus on Getting the Results". It implies that organizations in Macau have made significant progress on management capability improvement, especially in these four categories of assessment in the past two years.

Even so, there are still many things worthy of strengthening. For example, for "Vision and Strategic Leadership", the score was 2.0% lower than the MMCI overall mean in 2018, but the gap has enlarged to 3.8% in 2020. It implies this category is not improving at the same pace as the other management capability categories and has been left behind further in 2020. Similar problem is also observed in "Performance Leadership", "People Leadership and (Self-) Development", "Financial Leadership", "Organizational Capability" and "Innovation and Adaptability" with worsened gap with the MMCI overall mean in 2020.

Table 2.4.1: Comparison of MMCI 2018 and MMCI 2020

MMCI	Score		Deviation from the overall mean(%)		
	2018	2020	2018	2020	change
1. Visionary and Strategic Leadership	68.4	68.5	-2.0%	-3.8%	↓
2. Performance Leadership	68.8	69.4	-1.4%	-2.5%	↓
3. People Leadership and (Self-) Development	67.8	69.0	-2.9%	-3.1%	↓
4. Financial Leadership	69.2	71.1	-0.9%	-0.2%	↑
5. Organizational Capability	68.0	68.8	-2.6%	-3.3%	↓
6. Application of Technology and Knowledge	71.2	71.9	2.0%	1.0%	↓
7. External Relationships	72.0	72.7	3.2%	2.1%	↓
8. Integrity, Trust and Corporate Governance	75.2	79.6	7.7%	11.7%	↑
9. Innovation and Adaptability	68.4	70.0	-2.0%	-1.7%	↑
10. Focus on Getting the Results	69.2	71.9	-0.9%	1.0%	↑
Overall mean	69.6	71.3	-	-	-

2.5 The Adequacy of In-house and External Training

As shown in Table 2.5.1, the overall adequacy of in-house training has a score of 59.8 points which is 7.6% higher than the 55.6 points of external training. Furthermore, the score of in-house training adequacy is higher than that of external training in all ten categories of management capabilities, with the largest gap in "Visionary and Strategic Leadership", "Performance Leadership" and "Innovation and Adaptability" in which the deviation is more than or close to 10%.

Table 2.5.1: The adequacy of in-house and external training

Subcategory	In-house training	External training	variance
Visionary and Strategic Leadership	59.2	51.2	15.6%
Performance Leadership	58.2	52.4	11.1%
People Leadership and (Self-) Development	58.2	55.2	5.4%
Financial Leadership	53.6	51.8	3.5%
Organizational Capability	61.0	56.8	7.4%
Application of Technology and Knowledge	63.2	60.8	3.9%
External Relationships	61.2	58.4	4.8%
Integrity, Trust and Corporate Governance	65.2	60.8	7.2%
Innovation and Adaptability	57.8	52.8	9.5%
Focus on Getting the Results	59.8	55.6	7.6%
Overall mean	**59.8**	**55.6**	7.6%

In light of the adequacy of in-house training, respondents have given high score in "Integrity, Trust and Corporate Governance", "Application of Technology and Knowledge" and "External Relationships", with the average scores of 65.2, 63.2 and 61.2 points, respectively. In contrast, the adequacy level of "People Leadership and (Self-) Development", "Innovation and Adaptability" and "Financial Leadership" is low, with the average scores of 58.2, 57.8 and 53.6 points, respectively.

For the adequacy of external training, respondents have given high score in "Application of Technology and Knowledge", "Integrity, Trust and Corporate Governance" and "External Relationships", with the average scores of 60.8, 60.8 and 58.4 points, respectively. In contrast, the adequacy level of "Performance Leadership", "Financial Leadership" and "Visionary and Strategic Leadership" is low, with the average scores of 52.4, 51.8 and 51.2 points, respectively.

As a whole, regardless the training type, respondents have given an above average score to four management capability categories including "Organization Capability", "Application of Technology and Knowledge", "External Relationship" and "Integrity, Trust and Corporate Governance". Whereas the level of adequacy in "Visionary and Strategic Leadership", "Performance Leadership", "People Leadership and (Self-) Development", "Financial Leadership" and "Innovation and Adaptability" is inferior to their corresponding mean.

Figure 2.5.1: The adequacy of in-house and external training

In-house training

-1.0%	Visionary and strategic leadership
-2.7%	Performance leadership
-2.7%	People leadership and (self-)…
-10.4%	Financial leadership
2.0%	Organization capability
5.7%	Application of technology and…
2.3%	External relationships
9.0%	Integrity, trust and corporate…
-3.3%	Innovation and adaptability
0.0%	Focus on getting to results

External training

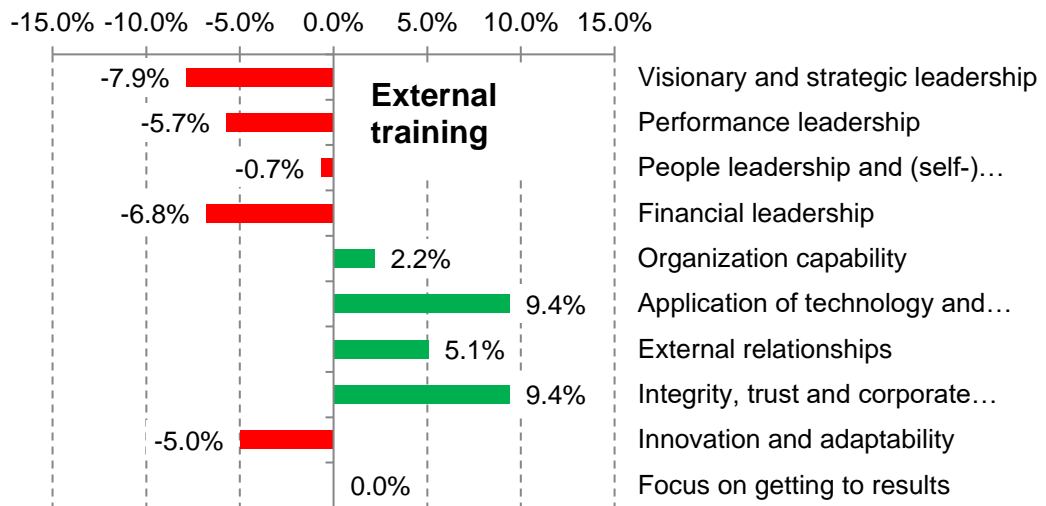|	
-7.9%	Visionary and strategic leadership
-5.7%	Performance leadership
-0.7%	People leadership and (self-)…
-6.8%	Financial leadership
2.2%	Organization capability
9.4%	Application of technology and…
5.1%	External relationships
9.4%	Integrity, trust and corporate…
-5.0%	Innovation and adaptability
0.0%	Focus on getting to results

Figure 2.5.2: The adequacy of in-house and external training by Industry Type

Table 2.5.2 indicates the scores given by respondents from different industries.

In light of the adequacy of in-house training, respondents from "Gaming" have given high score in "Visionary and strategic leadership", "Performance leadership", and "People leadership and (self-) development", with the average score of 61.4, 59.4, and 57.6 points, respectively. In contrast, the adequacy level of "Integrity, trust and corporate governance", "Innovation and adaptability", and "Focus on getting to results" is low, with the average scores of 54.8, 54.4, and 50.2 points, respectively. For the adequacy of external training, they have given a high score in "Integrity, trust and corporate governance", "Application of technology and knowledge", and "External relationships", with the average score of 59.4, 57.2, and 56.2 points, respectively. In contrast, the adequacy level of "Performance leadership", "Visionary and strategic leadership", and "Financial leadership" is low, with the average scores of 49.6, 48.4, and 48.0 points, respectively.

For the adequacy of in-house training, respondents from "Human Health and Social Work Activities" have given high score in "Integrity, trust and corporate governance", "Application of technology and knowledge", and "Organization capability", with the average score of 81.0, 78.0, and 75.0 points, respectively. In contrast, the adequacy level of "Innovation and adaptability", "External relationships", and "Financial leadership" is low, with the average scores of 70.0,

67.0, and 57.0 points, respectively. Meanwhile, for the adequacy of external training, they have given high score in "Application of technology and knowledge", "Integrity, trust, and corporate governance", and "People leadership and (self-) development", with the average score of 73.0, 69.6, and 68.0 points, respectively. In contrast, the adequacy level of" Visionary and Strategic Leadership", "Innovation and adaptability", "Performance leadership", and "Financial leadership" is low, with the average scores of 59.6, 59.6, 58.0, and 55.0 points, respectively.

In light of the adequacy of in-house training, respondents from "Hotels and Restaurants" have given high score in "Integrity, trust and corporate governance", "Performance leadership", and "External relationships", with the average score of 63.0, 59.0, and 59.0 points, respectively. In contrast, the adequacy level of "Focus on getting to results", "Innovation and adaptability", and "Financial leadership "is low, with the average scores of 55.4, 53.4, and 52.8 points, respectively. For the adequacy of external training, they have given high score in "Application of technology and knowledge", "Integrity, trust and corporate governance", and "External relationships", with the average score of 57.2, 57.0, and 56.4 points, respectively. In contrast, the adequacy level of "Focus on getting to results", "Innovation and adaptability", and "Visionary and strategic leadership" is low, with the average scores of 52.4, 49.8, and 48.8 points.

For the adequacy of in-house training, respondents from "Financial and Insurance Activities" have given high score in "Integrity, trust and corporate governance", "Application of technology and knowledge", and "External relationships", with the average score of 57.8, 55.6, and 55.6 points, respectively. In contrast, the adequacy level of "Focus on getting to results", "Performance leadership"," Organization capability", "Financial leadership", and "People leadership and (self-) development" is low, with the average scores of 50.0, 50.0, 50.0, 48.8, and 46.6 points, respectively. For the adequacy of external training, they have given a high score in "Integrity, trust and corporate governance", "External relationships", and "Focus on getting to results", with the average score of 58.8, 54.4, and 51.2 points, respectively. In contrast, the adequacy level of "Innovation and adaptability", "People leadership and (self-) development", and "Visionary and

strategic leadership" is low, with the average scores of 45.6, 43.4, and 41.2 points, respectively.

Respondents from "Public Utilities" have given high score in "External relationships", "Application of technology and knowledge", and "Integrity, trust and corporate governance", for the adequacy of in-house training, with the average score of 61.4, 60.0, and 58.6 points, respectively. In contrast, the adequacy level of "People leadership and (self-) development", "Financial leadership", and "Innovation and adaptability" is low, with the average scores of 50.6, 50.6, and 49.4 points, respectively. For the adequacy of external training, they have given a high score in "Application of technology and knowledge", "External relationships", and "Integrity, trust, and corporate governance", with the average score of 64.0, 61.4, and 60.0 points, respectively. In contrast, the adequacy level of "Financial leadership", "Innovation and adaptability", and "Performance leadership" is low, with the average scores of 50.6, 50.6, and 49.4 points, respectively.

Table 2.5.2: The adequacy of in-house and external training by Industry Type

Industry Type	Gaming		Human Health and Social Work Activities		Hotels and Restaurants		Financial and Insurance Activities		Public Utilities	
	In-house training	External training	In-house training	External training	In-house training	External training	In-house training	External training	In-house training	External training
Visionary and Strategic Leadership	57.2	48.4	70.0	59.6	56.4	48.8	51.2	41.2	54.6	54.6
Performance Leadership	55.2	49.6	71.0	58.0	59.0	52.8	50.0	47.8	52.0	49.4
People Leadership and (Self-) Development	54.4	52.2	71.0	68.0	55.8	53.4	46.6	43.4	50.6	52.8
Financial Leadership	50.2	48.0	57.0	55.0	52.8	54.4	48.8	47.8	50.6	50.6
Organizational Capability	57.2	52.4	75.0	64.0	57.0	55.4	50.0	46.6	54.6	54.6
Application of Technology and Knowledge	59.4	57.2	78.0	73.0	56.4	57.2	55.6	50.0	60.0	64.0
External Relationships	57.6	56.2	67.0	63.6	59.0	56.4	55.6	54.4	61.4	61.4
Integrity, Trust and Corporate Governance	61.4	59.4	81.0	69.6	63.0	57.0	57.8	58.8	58.6	60.0
Innovation and Adaptability	54.8	50.4	70.0	59.6	53.4	49.8	51.2	45.6	49.4	50.6
Focus on Getting the Results	55.6	52.8	74.0	63.6	55.4	52.4	50.0	51.2	55.2	53.8
Overall mean	**56.3**	**52.7**	**71.4**	**63.4**	**56.8**	**53.8**	**51.7**	**48.7**	**54.7**	**55.2**

3. Features of MMCI

3.1 Respondents Have the Highest Confidence in "Integrity, Trust and Corporate Governance"

In the ten categories of management capabilities, "Integrity, Trust and Corporate Governance" receives the highest average overall score of 79.6. Amongst, the subcategories of "The organization practices integrity, honesty and ethical behavior as necessary for sustained success" and" Management and employees adhere to legislation, regulations, and guidelines in administering the business of the organization" have got the best score, with an average of 81.0 and 80.2 points.

Furthermore, the cross-analysis indicates that respondents are most confident in "Integrity, Trust and Corporate Governance", regardless the industry they come from and the size of their organizations. The scores given by those from Gaming, Financial and Insurance Activities, Human Health and Social Work Activities and Public Utilities to assess "Integrity, Trust and Corporate Governance" are at least 10% higher than the corresponding mean of the industry. Respondents from medium-sized companies with 50-99 employees and large companies with 100 or more employees are also confident in "Integrity, Trust and Corporate Governance". The score they have given is around 9-10% higher than the mean of that particular organization size.

Table 3.1.1: Rating of "Integrity, Trust and Corporate Governance" by industry

MMCI by industry worked in		Integrity, Trust and Corporate Governance	Overall mean	Variation
Human Health and Social Work Activities	(n=40)	85.8	77.8	10.3%
Financial and Insurance Activities	(n=36)	77.4	70.2	10.3%
Gaming	(n=58)	76.7	69.5	10.4%
Hotels and Restaurants	(n=39)	73.6	68.1	8.1%
Public Utilities	(n=30)	72.3	65.7	10.0%

3.2 Respondents Have Low Confidence in "Organizational Capability"

The survey indicates that respondents render a relatively low average score of 68.8 to "Organizational Capability" regardless their industry. Amongst, the subcategory "Management has a sound understanding of best management practices to achieve organizational goals and objectives" has received the lowest average score of 67.6. The cross-analysis shows that the score given by respondents from different industries to "Organization Capability" is 3-7% lower than the overall mean of the corresponding industry.

Table 3.2.1: Rating of "Organizational Capability" by industry

MMCI by industry		Organizational Capability	Overall mean	Deviation
Human Health and Social Work Activities	(n=40)	73.6	77.8	-5.4%
Financial and Insurance Activities	(n=36)	66.7	70.2	-5.0%
Gaming	(n=58)	67.0	69.5	-3.6%
Hotels and Restaurants	(n=39)	65.4	68.1	-4.0%
Public Utilities	(n=30)	61.2	65.7	-6.8%

3.3 Senior Management Have Different Views on the Strength of Macau Management Capability

The score given by individuals in the "CEO/MD" level is 76.9, which is the highest among all the groups and 8% higher than the MMCI overall average score of 71.3. Besides, "CEO/MD" also give high score in "People Leadership and (Self-) Development", "Application of Technology and Knowledge", and "Financial Leadership", with the average scores of 82.2, 81.8, and 79.1 points. Meanwhile, their rating of "Integrity, Trust and Corporate Governance", "Performance Leadership", and "Visionary and Strategic Leadership" is relatively low, with the average scores of 74.8, 74.5, and 72.2 points, respectively. Respondents from the other managerial levels render higher scores in "Integrity, Trust and Corporate Governance", "External Relationship" and "Focus on Getting

the Result", but lower scores in "Organizational Capability", "People Leadership and (Self-) Development" and "Performance Leadership".

Table 3.3.1: Results by managerial level

Results by managerial level	Level 1	Level 2	Level 3	Report to other levels/Not in a managerial position
	(n=26)	(n=89)	(n=152)	(n=37)
1. Visionary and Strategic Leadership	72.2	69.3	68.1	72.9
2. Performance Leadership	74.5	68.0	68.8	66.2
3. People Leadership and (Self-) Development	82.2	67.8	69.7	68.5
4. Financial Leadership	79.1	66.2	70.4	71.6
5. Organizational Capability	78.2	66.5	68.3	65.9
6. Application of Technology and Knowledge	81.8	70.7	72.6	71.8
7. External Relationships	75.7	73.1	74.9	73.4
8. Integrity, Trust and Corporate Governance	74.8	77.3	79.0	75.2
9. Innovation and Adaptability	78.8	68.4	70.3	68.0
10. Focus on Getting the Results	77.2	71.9	72.4	67.9
Overall mean	**76.9**	**70.2**	**71.4**	**70.0**

Level 1: CEO/MD/GM/Chairman. Level 2: report to CEO/MD/GM/Chairman
Level 3: report to Level2.

3.4 The Medium-sized Organizations Have Low MMCI

The survey exhibits that organizations with 50-99 employees have below average performance in management capabilities. Respondents from these medium-sized organizations give lower scores in all the ten categories of management capabilities, especially in "Visionary and Strategic Leadership" and "External Relationships" with a low score of 61.6 and 64.0, which are 11.3% and 13.8% lower than their corresponding mean score.

Table 3.4.1: Results by organization size

MMCI by organization size	50-99 (n=22)	Overall mean	Variation
1. Visionary and Strategic Leadership	61.6	69.4	-11.3%
2. Performance Leadership	62.5	68.8	-9.1%
3. People Leadership and (Self-) Development	64.5	70.1	-8.0%
4. Financial Leadership	65.5	70.1	-6.6%
5. Organizational Capability	67.6	68.4	-1.1%
6. Application of Technology and Knowledge	69.5	72.7	-4.4%
7. External Relationships	64.0	74.3	-13.8%
8. Integrity, Trust and Corporate Governance	72.7	77.6	-6.4%
9. Innovation and Adaptability	63.8	70.2	-9.1%
10. Focus on Getting the Results	67.6	72.0	-6.2%

3.5 "Visionary and Strategic Leadership" and "People Leadership and (Self-) Development" Have the Lowest MMCI

The subcategories of "Management demonstrates an international/global perspective and has a good understanding of global markets and global thinking" and "Management practices critical reflection and self-development" in "Visionary and Strategic Leadership" and "People Leadership and (Self-) Development" have received the lowest score of 64.2 and 64.6 points, respectively, which are also the lowest in the 53 subcategories under the ten categories of management capabilities. These are the aspects where improvement have to be made.

In addition, the performance in the subcategories "Management articulates a clear and inspiring vision that is well understood", "Management plans with a view to growing the business while meeting the needs of shareholders/owners, taking into account employee, supplier, customer, and other stakeholder interests" and "Management respects and maintains a culture supportive and inclusive of employees, their values and their diversity - not stifled by structure and hierarchy" is not satisfactory.
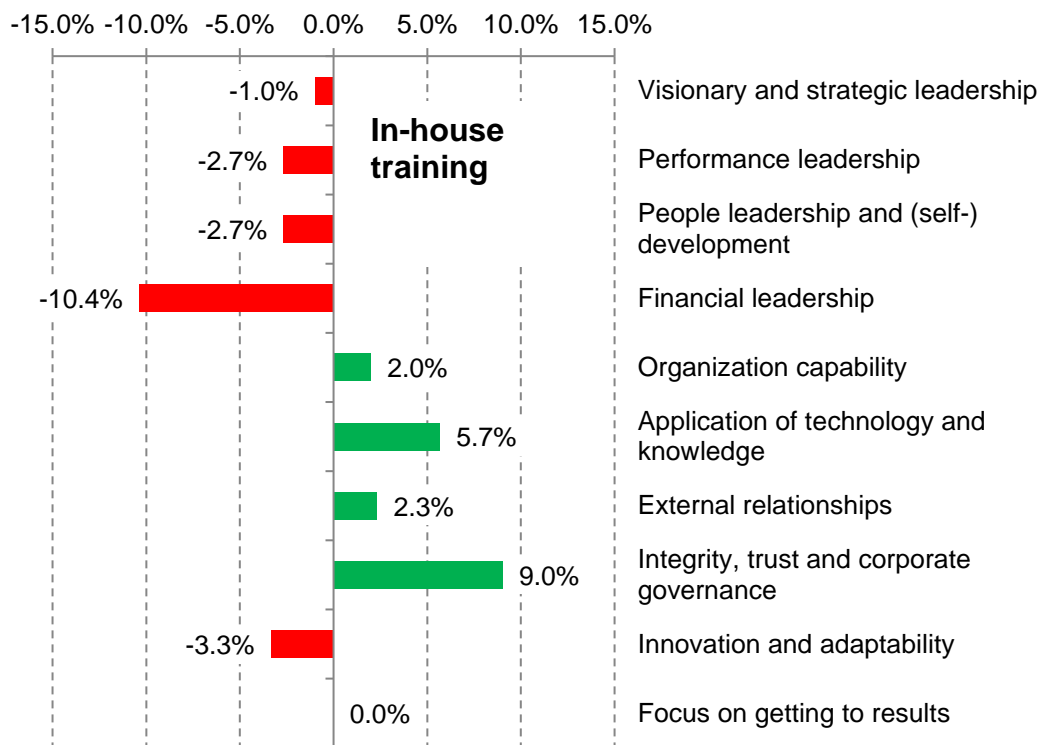
Table 3.5.1: The five subcategories with the lowest score

Category	Subcategories	Overall Mean
Visionary and Strategic Leadership	Management articulates a clear and inspiring vision that is well understood.	66.2
	Management plans with a view to growing the business while meeting the needs of shareholders/owners, taking into account employee, supplier, customer, and other stakeholder interests.	66.2
	Management demonstrates an international/global perspective and has a good understanding of global markets and global thinking.	64.2
People Leadership and (Self-) Development	Management respects and maintains a culture supportive and inclusive of employees, their values and their diversity - not stifled by structure and hierarchy	66.6
	Management practices critical reflection and self-development	64.6

3.6 Below Average Performance is Observed in Five Subcategories in In-house and External Training

For the adequacy of in-house and external training, the survey exhibits above average performance in "Organization Capability", "Application of Technology and Knowledge", "External Relationship" and "Integrity, Trust and Corporate Governance". Simultaneously, below average performance is reviewed in "Visionary and Strategic Leadership", "Performance Leadership", "People Leadership and (Self-) Development", "Financial Leadership" and "Innovation and Adaptability". Given that, organizations are suggested to strengthen their training in these five areas.

Figure 3.6.1: The adequacy of in-house and external training

In-house training

-1.0%	Visionary and strategic leadership
-2.7%	Performance leadership
-2.7%	People leadership and (self-) development
-10.4%	Financial leadership
2.0%	Organization capability
5.7%	Application of technology and knowledge
2.3%	External relationships
9.0%	Integrity, trust and corporate governance
-3.3%	Innovation and adaptability
0.0%	Focus on getting to results

External training

-7.9%	Visionary and strategic leadership
-5.7%	Performance leadership
-0.7%	People leadership and (self-) development
-6.8%	Financial leadership
2.2%	Organization capability
9.4%	Application of technology and knowledge
5.1%	External relationships
9.4%	Integrity, trust and corporate governance
-5.0%	Innovation and adaptability
0.0%	Focus on getting to results

4. Recommendations

The sudden outbreak of the COVID-19 pandemic does not only affect international economic and trade activities in the short-run, but also leads to long-term consequences. Given the pandemic, the development prospects of the global economy are facing higher uncertainty, bringing about severe challenges to corporate management. Notwithstanding the adverse shock, there are always some companies which can turn crises into opportunities to continue to grow and the strength of their management capabilities is the key behind. The pandemic has affected the enterprises by causing financial pressure and tight cash flow, disruption of supply chains and a general decline in market supply and demand. When most of the enterprises in Macau are small, medium, and micro-sized enterprises, they do not have the needed management capabilities to respond promptly to such rapid and deep market adjustments. The tourism and catering industries which rely heavily on incoming tourists and human flows are confronted with enormous challenges. Simultaneously, the development of the digital economy has accelerated, online businesses such as digital media and E-commerce have shown their "counter-trend" development potential during the pandemic.

The analysis result of the survey indicates that the Macau Management Capability Index (MMCI) has the score of 71.3 points in 2020 which is higher than the 69.6 points in 2018. However, the scores for the six subcategories of "Financial Leadership", "Innovation and Adaptability", "Performance Leadership", "People Leadership and (Self-) Development", "Organization Capability" and "Visionary and Strategic Leadership" are lower than the mean score (71.3), especially for the 3rd to the 6th subcategories mentioned above which have their scores below the 70 points level. Given that, it is important to improve the overall management capabilities of local enterprises to allow them to tackle the adverse shock caused by sudden changes in the economic environment, so as to reduce the impacts on the survival of the enterprises and the linkage effects on employment and economic growth which is worthy of notice by all the stakeholders. Based on this, the following three recommendations are proposed:

4.1 Building Up Management Capabilities for Business Owners or Managers

For most of the small, medium, and micro-sized enterprises in Macau, there is no clear cut between ownership and management. Under this circumstance, business owners (shareholders) are also managers responsible for the daily operation of the enterprises. Among the factors that influencing the operating behaviors, managers are in the dominant position in management activities. For two organizations with similar conditions, manager becomes the critical factor determining the quality of management. The level of managerial capability plays a deterministic role to ensure the achievement of organizational goals and improvement in management effectiveness. It is suggested that local business owners and managers should participate constantly in exchange seminars, training programs and other activities to build up their management capability, to study the changing market situation proactively and respond quickly to adopt into the variations, to exercise effective planning, arrangement, leadership and control on the resources of the organization, to implement timely adjustment on the supply mode of products or services and the marketing strategy to minimize the negative impacts from any unexpected shock.

4.2 Educational and Training Institutions Can Renew Their Curriculums in Response to the New Normal Operating Environment

Under the pandemic, business owners and managers are facing an operating environment with high level of uncertainty which requires the formation of management capabilities. It is suggested that educational and training institutions can increase the weight of risk management and digit transformation in their curriculum design. The pandemic has highlighted the importance of risk management capability, enterprises with sufficient cash flow reserves can maintain their operations for a longer period given an unexpected shock. It provides the enterprises with more time and chances to recover which is worth learning by the other enterprises. Simultaneously, enterprises should implement continuously digitization and automation to conform changes in consumer behaviors in the market to reduce the impacts from an unexpected shock. These

lessons and findings should be integrated in the new curriculum.

4.3 Government Intervention to Formulate Public Policies to Enhance Management Capabilities

Improvement in the overall management capabilities of enterprises can help to increase their survivability under uncertainty, which can bring about positive externalities of economic stability and employment support to the society. It is suggested that the Macau SAR government can make use of subsidies or tax incentives to support the local enterprises to build up or strengthen their management capabilities.

5. Conclusion

The Macau Management Capacity Indicators (MMCI) is a broad-based assessment tool. It reflects the current situation of organizations in different sizes and their management practices. It allows individual organizations to analyze their performance in management capacity. By comparing its MCI with that of its competitors in the same industry, an organization can better understand the strength and characteristics of its management approach. It can then make the needed improvement to adjust its strategies accordingly to achieve advancement in the performance of the organization.

From this survey, we have found that organizations in Macau continue to show strong confidence in the category of "Integrity, Trust and Corporate Governance". Organizations with good ethical principles which also make business decisions based on these principles can undoubtedly help to strengthen the foundation of the established organizational culture in Macau. It can also help organizations in Macau to establish a good corporate image in the global market. Furthermore, the report also shows that organizations in Macau need to do more in "Vision and Strategic Leadership" and "People Leadership and (Self-) Development".

In 2020, affected by the outbreak of COVID-19, the Macau economy has experienced a setback in various activities. Large, medium, small and micro sized enterprises in different industries and sectors are facing various difficulties and challenges. The MMA hopes that by composing the MMCI to develop a benchmarking tool with a quantitative value and reference function, it can help the local enterprises to identify the strength and weakness of their management practices earliest possible for adjustments and optimization. It does not only allow them to better adopt into the changing social and economic environment, but also provides objective data for the sustainable development of enterprises and organizations in Macau.

Finally, MMA would like to express its sincere gratitude to Macau Economic Association for the efforts and assistance it has contributed in conducting the MMCI Survey 2020.

6. Appendix

6.1 Definitions

The definitions that form the basis for the MMCI have been drawn from the definitions used in other jurisdictions to ensure the consistency of data in international MCI comparisons.

6.1.1 Management Capability and Related Concepts

Management capability is the capacity to apply management competencies within an organization to achieve desired results.

Competencies: These are general descriptions of the abilities necessary to

perform successfully in a particular job or position. Competency profiles are used as the basis for defining the requirements of a specific position and for predicting individual performance in the position.

Competence: This is having the requisite or adequate ability or qualities to

perform well or to a required standard.

Capability: This is the demonstrated capacity to achieve through effective use of abilities or competencies for a particular purpose.

6.1.2 Macau Management Capability Index Categories

Definitions for each of the ten categories that make up the MMCI are as follows:

a. Visionary and strategic leadership

Articulates a clear and inspiring vision for the organization and team, and identifying the best ways to move towards the organization's vision, mission, objectives, and goals while at the same time taking into account the needs of all stakeholders, demonstrates a global perspective and understanding of global markets and global thinking.

b. Performance leadership

Ensures an achievement-oriented organization and team that can manage risks and constant changes, while consistently striving for performance excellence and continuous improvement.

c. People leadership

Makes human resource planning, talent management, and development an integral part of the organization. Maintains an open structure that encourages the growth and empowerment of its people.

d. Financial leadership

Practices sound and effective financial management of the organization. Leads and manages the organization to consistent performance improvements and profitable growth.

e. Organizational capability

Builds a culture of innovation and research with emphasis on continual improvement and learning both for the individual and organization. Maintains a "boundary-less" organization with the practical application of best management practices to achieve organizational goals and objectives.

f. Application of technology and knowledge

Brings about a knowledge-driven organization that understands and exploits information technology and knowledge management to improve the performance of the organization.

g. External relationships

Builds effective relationships with all stakeholders and develops and maintains networks and spheres of influence.

h. Integrity and corporate governance

Consistently adheres to ethical principles having set specific rules and procedures for making decisions on the organization's affairs. Has an established standard of ethical behavior for directors and stakeholders based on trustworthiness and values that are accepted or upheld? Adheres to legislation, regulations, and guidelines in administering the business of the organization.

i. Innovation - products and services

Encourages continuous innovation in products and services in creating new value for the organization.

j. Results and comparative performance

Measures and monitors business performance and goals as the key performance indicators and scorecard of the organization. Recognizes that performance results are the essential measures of management capability.

6.2 Subcategory Results:

Subcategory		Score	95% CI	
			Lower bound	Upper bound
1. Visionary and Strategic Leadership		68.5		
a	Management articulates a clear and inspiring vision that is well understood.	66.2	63.8	68.6
b	Management plans to grow the business while meeting the needs of shareholders/owners, taking into account employee, supplier, customer, and other stakeholder interests.	66.2	63.8	68.6
c	Management demonstrates an international/global perspective and has a good understanding of global markets and global thinking.	64.2	61.7	66.7
d	Management demonstrates professional and technical	72.8	70.6	75.0
e	Management champions change	73.2	70.8	75.6
2. Performance Leadership		69.4		
a	Management demonstrates the ability and attitude to lead and champion the achievement of challenging goals and change	70.6	68.4	72.8
b	Management balances risk with achievement, not risk avoidance (i.e. management is not risk averse)	68.4	66.1	70.7
c	Management enables the organization to perform consistently better than its competitors or other comparable organizations	68.0	65.7	70.3
d	Management analyses issues and anticipates and solves problems	71.0	68.7	73.3
e	Management is organized and effective at performance planning	69.0	66.6	71.4
3. People Leadership and (Self-) Development		69.0		
a	Management attracts, retains, develops, motivates, inspires and leads an effective team capable of achieving organizational objectives	67.6	65.3	69.9
b	Management respects and maintains a culture supportive and inclusive of employees, their values and their diversity - not stifled by structure and hierarchy	66.6	64.2	69.0
c	Management collaborates and fosters teamwork	72.2	69.9	74.5

	Subcategory	Score	95% CI Lower bound	95% CI Upper bound
d	Management communicates powerfully and broadly to people in the organization	68.8	66.4	71.2
e	Management provides rewards and recognition for loyalty and performance	73.0	70.6	75.4
f	Management acts in the team's best interest	71.4	69.1	73.7
g	Management creates a high-performance team	67.8	65.5	70.1
h	Management practices critical reflection and self-development	64.6	62.1	67.1
4. Financial Leadership		71.1		
a	Management develops and commits to plans and goals that support sound growth and continuous performance improvement	74.4	72.4	76.4
b	Management leads and manages the organization to consistently achieve or exceed these goals	69.0	66.8	71.2
c	Management practices sound and effective management of the organization including financial planning, accounting, cash flow management, investment, financial reporting, and liaison with financial institutions	71.2	69.0	73.4
d	Management has experienced accounting and financial personnel for its financial management	71.6	69.2	74.0
e	Management has in place sound and effective internal control systems through supervision and internal audit and hierarchy	69.2	66.7	71.7
5. Organizational Capability		68.8		
a	Management builds organizational capability, a culture of innovation, and dedication to continuous improvement	70.0	67.9	69.7
b	Management brings about and maintains an organization that encourages collaboration between departments and does not rely solely on the hierarchy to achieve its goals	68.6	66.5	71.1
c	Management effectively balances strong effective teams with autonomous individuals	69.2	67.0	69.6
d	Management has a sound understanding of best management practices to achieve organizational goals and objectives	67.6	65.5	75.6
e	Management demonstrates a strong commitment to continuous learning for both individuals and the organization	68.8	66.5	76.3

Subcategory	Score	95% CI Lower bound	95% CI Upper bound
6. Application of Technology and Knowledge	71.9		
a Management exploits information technology to bring about a knowledge-driven organization	67.6	65.6	69.6
b Management understands the impact of technology on organizations and on work itself	73.4	71.2	75.6
c Management understands the value and application of knowledge in organizations	74.2	72.1	76.3
d Management practices knowledge management and promotes a learning organization culture	69.6	67.3	71.9
e Management understands the need to actively protect information/data in the organization	74.6	72.4	76.8
7. External Relationships	72.7		
a Management develops networks and spheres of influence with stakeholders	71.4	69.3	73.5
b Management maintains networks and spheres of influence with stakeholders	72.4	70.3	74.5
c Management ensures the organization has a positive external image through the building of effective relationships with all stakeholders including customers and suppliers	75.2	73.2	77.2
d Management ensures the organization has a positive external image through the fulfillment of community and social obligations	76.8	74.6	79.0
e Management encourages employees to engage with external stakeholders	67.8	65.5	70.1
8. Integrity, Trust and Corporate Governance	79.6		
a Management and employees understand ethical principles in making decisions on the organization's affairs	78.8	76.7	80.9
b Management and employees follow ethical rules and procedures for making decisions	79.2	77.3	81.1
c Management and employees adhere to legislation, regulations, and guidelines in administering the business of the organization	80.2	78.3	82.1
d The organization promotes an established standard of ethical behavior for directors, management and employees based on a code of conduct	78.6	76.7	80.5
e The organization practices integrity, honesty and ethical behavior as necessary for sustained success	81.0	79.0	83.0
9. Innovation and Adaptability	70.0		

Subcategory		Score	95% CI	
			Lower bound	Upper bound
a	Management and employees create the climate for and encourage continuous innovation in products and services	69.4	67.1	71.7
b	Management and employees practice innovation to create new values for the business customers and shareholders	69.6	67.4	71.8
c	Management and employees support each other in risk-taking in innovation	69.8	67.5	72.1
d	Management frequently incorporates customer views and priorities into the innovation process	72.2	70.1	74.3
e	Management quickly responds to innovation opportunities	69.0	66.6	71.4
10. Focus on Getting the Results		71.9		
a	Management has a clear strategy and activities to achieve desired results	70.2	67.9	72.5
b	Management builds on previous successes and lessons learned	73.4	71.2	75.6
c	Management provides frequent feedback to teams	73.8	71.6	76.0
d	Management monitors progress and makes adjustments when needed	74.2	72.1	76.3
e	Management encourages others in the organization to see desired results clearly	68.0	65.8	70.2