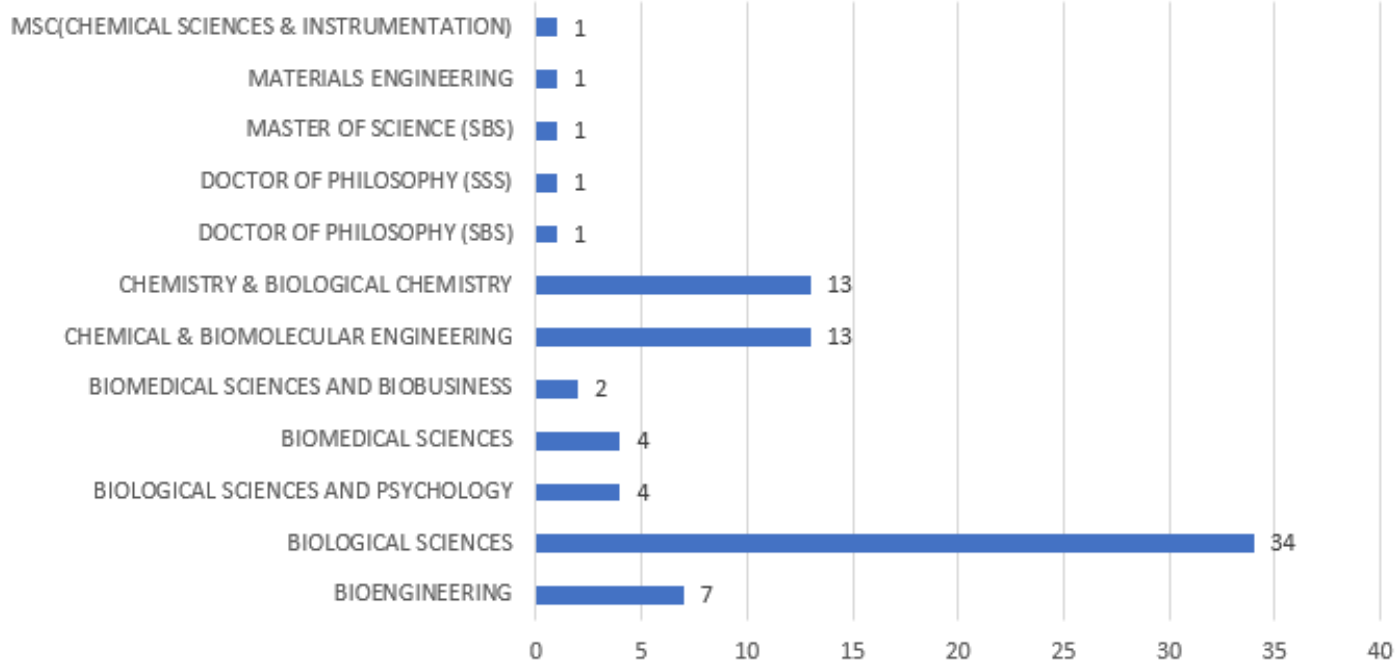


Breakdown of Registrants, by Course



YK (Career & Leadership Coach)
PharmacistCoaches.Com

Career Options for Life Science graduates in the Industry: An Overview


Sharing content . . .

 Types of company / industry & Examples

 Career options: Commercial. Manufacturing. Others.

 *“What’s ‘best’ for me . . .?”*

 Take home messages

 For more information: PharmacistCoaches.Com

YK PNG

Coach & Mentor.
Corporate Trainer. Speaker.

PharmacistCoaches.Com

Experience + Theories + Customized Solutions,
plus Coach-toring = Limitless Possibilities



Education

- Transformation Leadership Coaching Course, an ICF certified program (2022).
- National University of Singapore (1987): Bachelor in Pharmacy (Honours).
- Curtin University, Australia (1998/99): Master in International Business.
- Singapore Institute of Management (1990): Graduate Diploma in Marketing Management.
- Chartered Institute of Marketing, UK (1991): Diploma in International Marketing.
- Chartered Association of Certified Accountants, UK (1995): Certified Diploma in Accounting and Finance.
- UCB Global Leadership Program (2003).
- Universitas 21 (2010): Quantum Leap Management.
- Stanford University & HK University (2013): Li & Fung Leadership Program.
- PACE Academy / Parkway College (2017): Certificate of Performance in Healthcare Management.



LABGISTICS



Johnson & Johnson

LF ASIA

LI & FUNG



SCHMIDT BioMedTech

• Education background:

- B Sc (Pharmacy) (Honours) (NUS) / Master in International Business (Curtin) / Dip. Marketing (CIM, UK) / Grad Dip Marketing. Management (SIM) / Cert Dip Accounting & Finance (ACCA, UK). Leadership Coaching Course (ICF). Advanced Certificate in Learning & Performance (ACLP – on-going) (IAL).

• Career experience: Life Sciences (Commercial & Logistic/Supply Chain)

- Founder: PharmacistCoaches.Com
- Leadership & career coach, trainer and speaker.
- Vice President / Regional General Management (SEA, Indochina, China, HK, Macau).
- Expatriate job in China (& also Hong Kong, Macau).
- Pharmacist: Hospital / Community.

• Professional memberships / Awards:

- Appointed member of Singapore Pharmacy Board Complaints Panel, Ministry of Health 2013/15, 2015/2017, 2017/2021, 2021/2023.
- Pharmaceutical Society of Singapore: member / Vice President (2002/3). Life member. Chairman, Financial Advisory Committee (2022).
- Medical Alumni: member (resigned).
- Singapore National Stroke Association: Life member.
- Professor Lucy Wan “Pharmacist of the Year 2000” Award.
- PSS-ICM Industry Pharmacist of the Year 2017.

Life Science Graduates: Highly Flexible in Many Fields

Life Science Industry



Ref: Career Prospects and Development | School of Biological Sciences | NTU Singapore

Career Options in the Industry

Industry:

- Pharmaceuticals/BioPharmaceuticals
- Medical devices
- Medical equipment
- Consumer Healthcare
- Biotechnology
- R&D / Clinical trial, ...
- Distributors / wholesalers
- Generics manufacturers



Principals / Manufacturers



Supply Chain . . .

Principals
(Manufacturers)



Distributors



Hospitals / Pharmacies /
Retailers

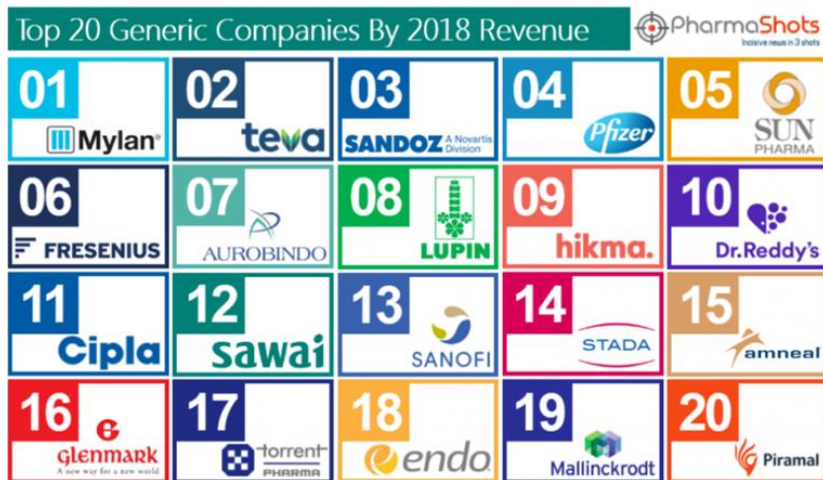


Patients /
Consumers

Examples . . .



Pharma/Biopharma



Generics



Medical Devices /Equipment



Biotechnology (emerging . . . China)



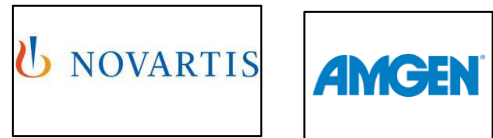
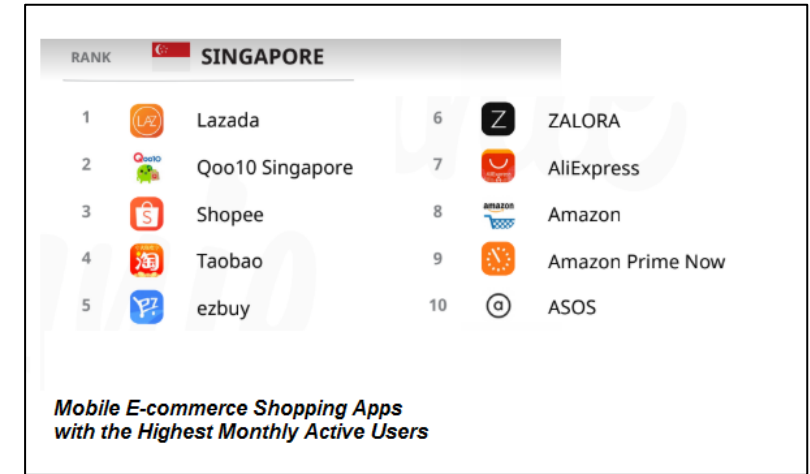
CRO,...

Examples . . .



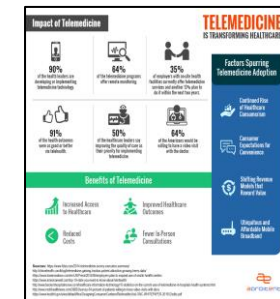
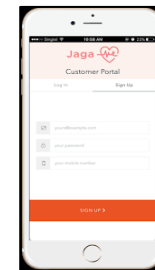
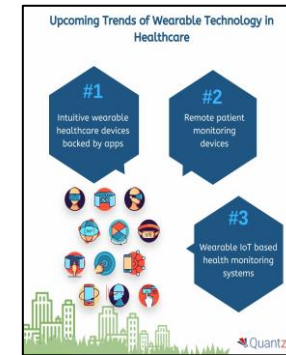
Distributors

E-Commerce



Manufacturers

Telehealth





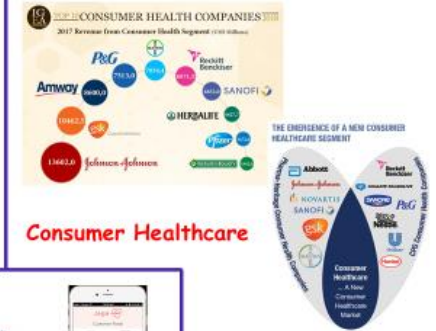
Examples . . .



Top 20 Medical Device Companies Based on 2019 Revenue

01 Medtronic	02 Johnson & Johnson	03 Covidien	04 Medtronic	05 Covidien
06 Stryker	07 BD	08 Abbott	09 Baxter	10 Boston Scientific
11 B. Braun	12 Zimmer Biomet	13 3M	14 Alcon	15 Johnson & Johnson
16 Olympus	17 Carlisle	18 Covidien	19 Philips	20 SmithKline

Examples . . .



Pharma/Biopharma

Top 20 Generic Companies by 2018 Revenue

01 Mylan	02 Teva	03 Sandoz	04 Amneal	05 Sunovion
06 Fresenius	07 Sawai	08 Hikma	09 Amneal	10 Amneal
11 Cipla	12 Sawai	13 Hikma	14 Amneal	15 Amneal
16 Amneal	17 Sawai	18 Hikma	19 Amneal	20 Amneal

Generics

CRO / ...



Medical Devices /Equipment



Biotechnology (emerging . . . China)

Distributors

Manufacturers



Telehealth



E-Commerce



Career Options

- : Commercial (S&M, RA, MSL, ...)
- : Manufacturing (Engineers, QA, R&D, ...)
- : Institutions (eg. Hospital, Gov't agencies)
- : Others, including entrepreneurship and postgraduate studies



Career options in the Industry: **Sales**

Pharmaceutical Sales Rep



Traits of Successful Salespeople

- ◆ Enthusiasm
- ◆ Patience
- ◆ Initiative
- ◆ Self-Confidence
- ◆ Job Commitment
- ◆ Customer Orientation
- ◆ Independent
- ◆ Self-Motivated
- ◆ Excellent Listeners
- ◆ Friendly
- ◆ Persistent
- ◆ Attentive
- ◆ Honest
- ◆ Internally Motivated
- ◆ Relationship Oriented
- ◆ Disciplined
- ◆ Hardworking
- ◆ Team Players

How much does a Pharmaceutical Sales Representative earn?



Typical remuneration (Sales job):

- Base salary: market benchmark
- Car allowance: S\$1K to S\$1.5K (excl car park charges, claimable)
- Commission: S\$1.5K to S\$2.5K
- Mobile, ...



Which industry? Attributes?

Question:
Must you be “talkative” or an “extrovert” to be a good sales person?

Industry:

- Pharmaceuticals / Biopharmaceuticals
- Consumer Healthcare
- Biotechnology
- Medical devices
- Medical equipment
- Distributors / wholesalers
- R&D / Clinical trial, ...

Possible advantages:

- Good understanding of product knowledge
- Clinical knowledge (eg. Pharmacy graduate)
- Network

Attributes:

- Meeting people
- Freedom
- Disciplined, Persistence, Positive, ...
- Sales pressures
- Customer service / good listener
- Good communicator / Presentation skills
- “Sky is the limit”...
- “Failure is a must, not an option”...
- etc, etc . . .

A typical day at work (Sales Rep) . . .

"Ciong" to the clinics, hospitals, pharmacies, ...

Preparing "weapons" (brochures, samples, Forms, ...)

Emails, meetings, reports, clinical papers, role plays, ...

Say "good morning" to your "kakis" and bosses, "kay-poying"

Join the "Jam"

Enjoy the lonely lunch or with customers or "kakis"...

Lunch time talks, ...

"Ciong" again...

Zoom meetings, ...



Home sweet home or let's go for a drink!

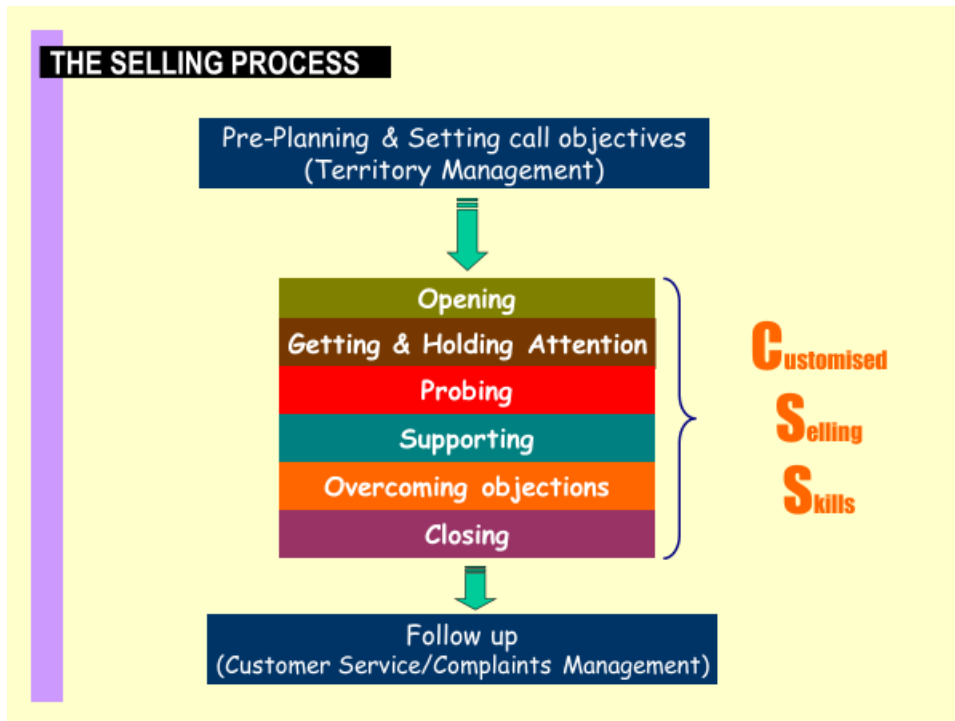
Morning journal club meetings

Evening talks, customers dinner, ...

Remarks:

Reps may not need to be back to office everyday or at the end of the day.

An example of job duties for a Pharm Sales Rep . . .



- ✓ Meet **sales target** & non-sales KPIs
- ✓ Achieve required number of calls: **8 to 10 calls a day**
- ✓ Attend company **meetings**
- ✓ Possess **good product knowledge and selling skills**
(trainings provided for new reps)
- ✓ Effective utilization of selling and promotional tools (eg. detailing aids)
- ✓ **Organize sales &/or product presentation**
- ✓ **Assist in marketing activities** eg. product talks and workshops, trade exhibition, invite doctors to oversea congress, ...
- ✓ Build strong **customer relationship and loyalty**
- ✓ Maintain strong **compliance** requirement (pharmacovigilance & compliance): eg. product sampling, ADR, ...
- ✓ **Strong team player**: eg. close working relationship with fellow colleagues from sales & marketing.

Career options in the Industry: **Marketing**

Product Manager Responsibilities



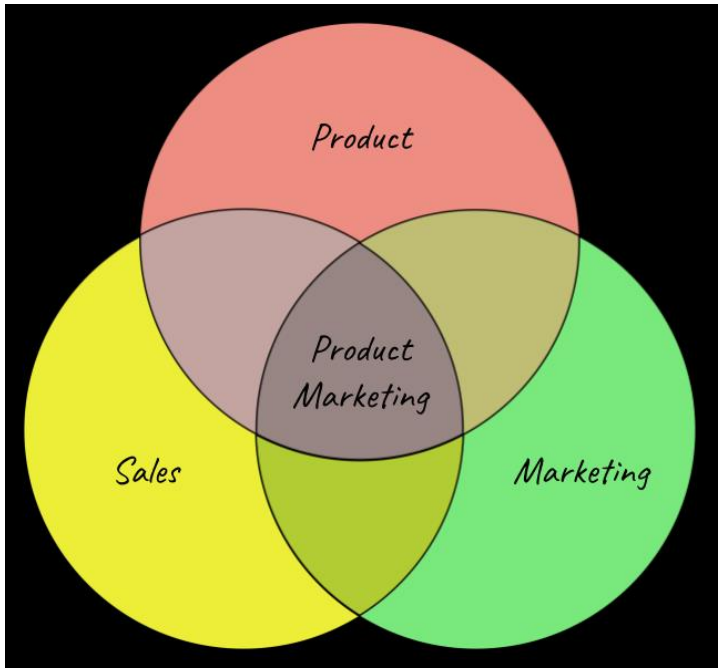
Entry-Level Product Manager

- Come up with feature specifications
- Use market research to Understand Customers
- Recommend A/B test experiments to senior PMs
- Help monitor and report on experiments

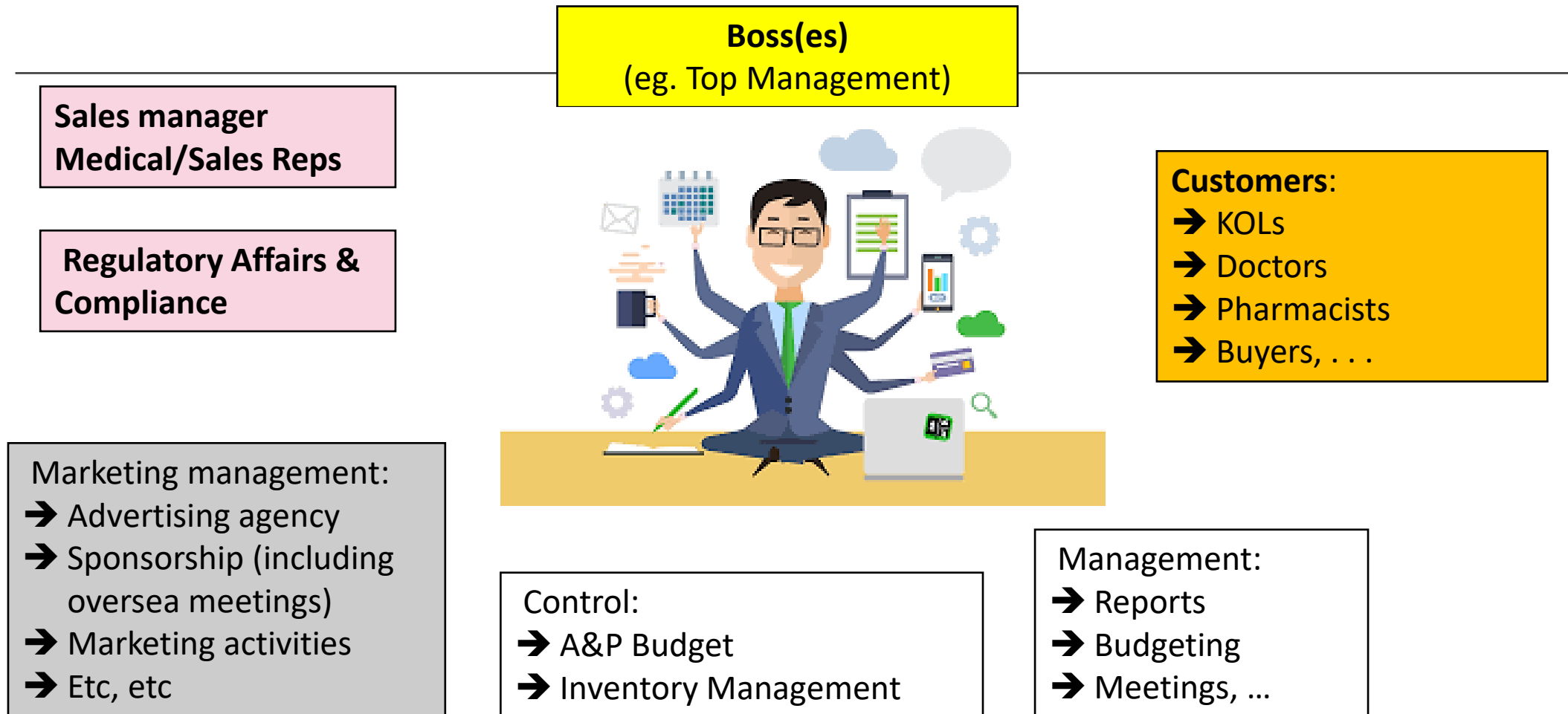
Mid-Level and Senior Product Managers

- Analyze results from product releases
- Create a product roadmap
- Create product development and launch strategies
- Mentor junior PMs

CAREER KARMA



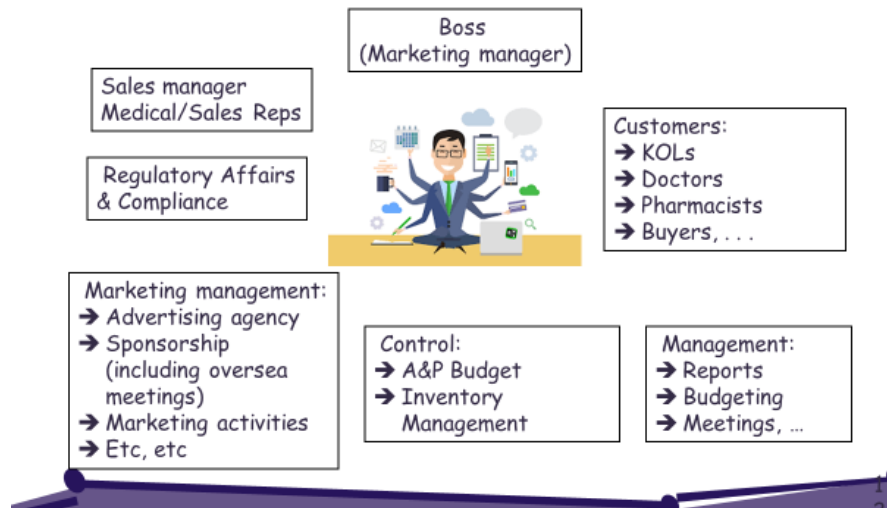
Typical job scopes of a Product Executive/Manager



Example of “What does a Product Manager do?”

Career options in the Industry

Product Management (Marketing)



Business:

- ✓ Field visits, either alone or with sales reps
- ✓ Conduct talks & marketing activities
- ✓ Travel with doctors to oversea congresses
- ✓ Participate in trade exhibition, congresses, ...
- ✓ Lunch with doctors, ...

Marketing:

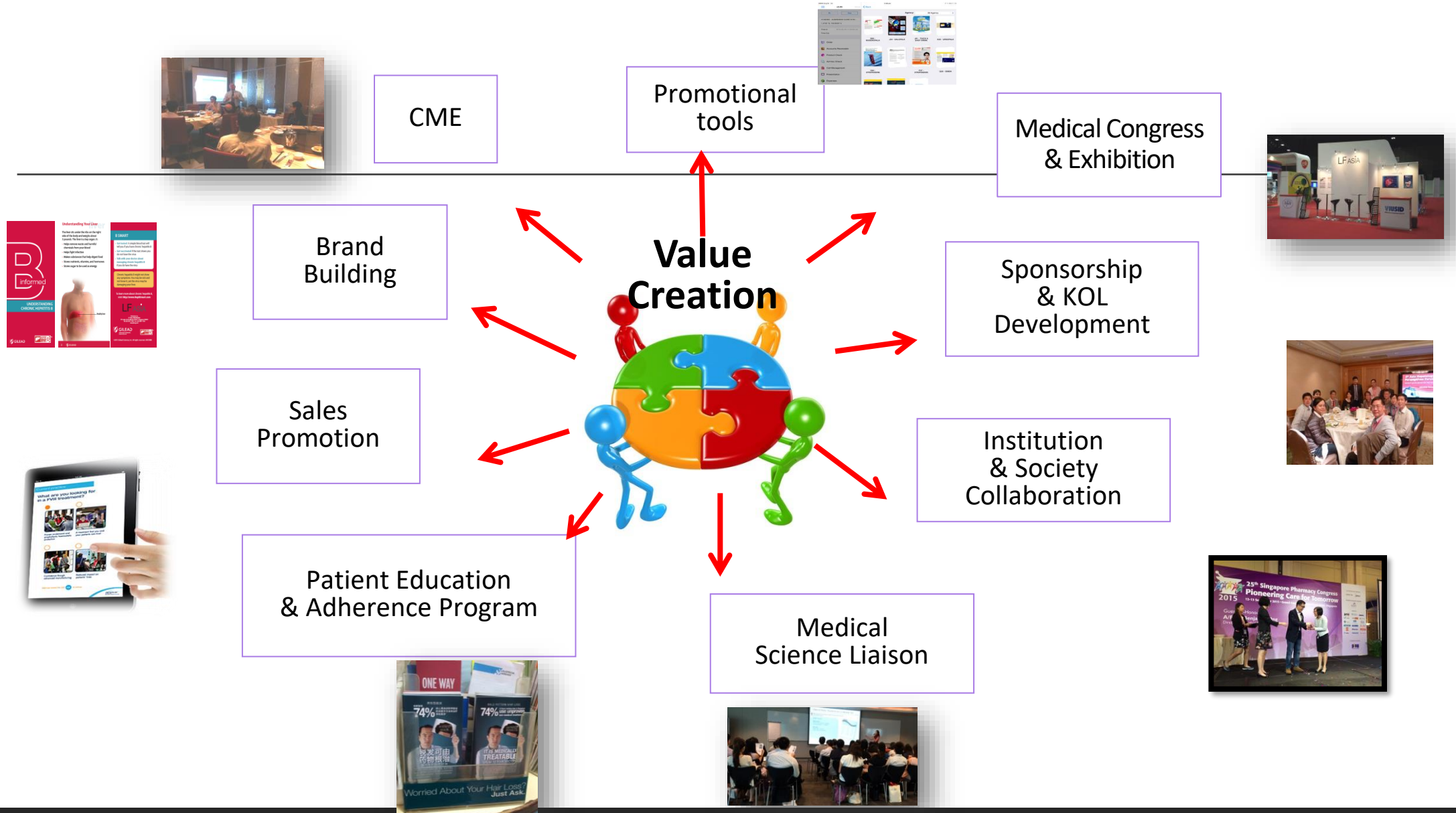
- ✓ Develop marketing materials, eg. detailing aids, gimmicks, ...
- ✓ New product launches
- ✓ Business development: Market evaluation, competitor analysis, ..., etc, ..

Management / Regulatory & Compliance:

- ✓ Prepare marketing plan, budgeting, ...
- ✓ Attend management & marketing meetings, ...
- ✓ A& P control
- ✓ Product sample control
- ✓ Inventory management
- ✓ Pharmacovigilance / compliance, etc,...



Value Creation – Omni-channel Marketing Strategy (Pharma)

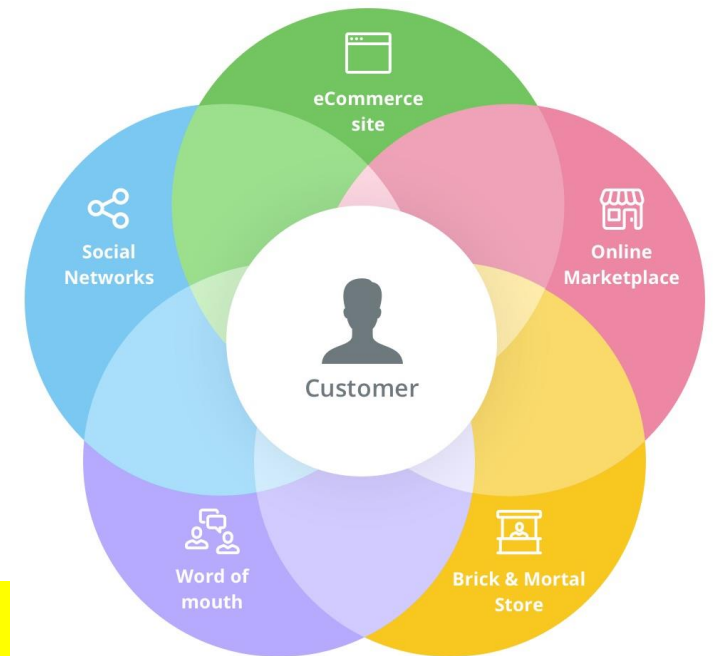


Omni-channel Marketing

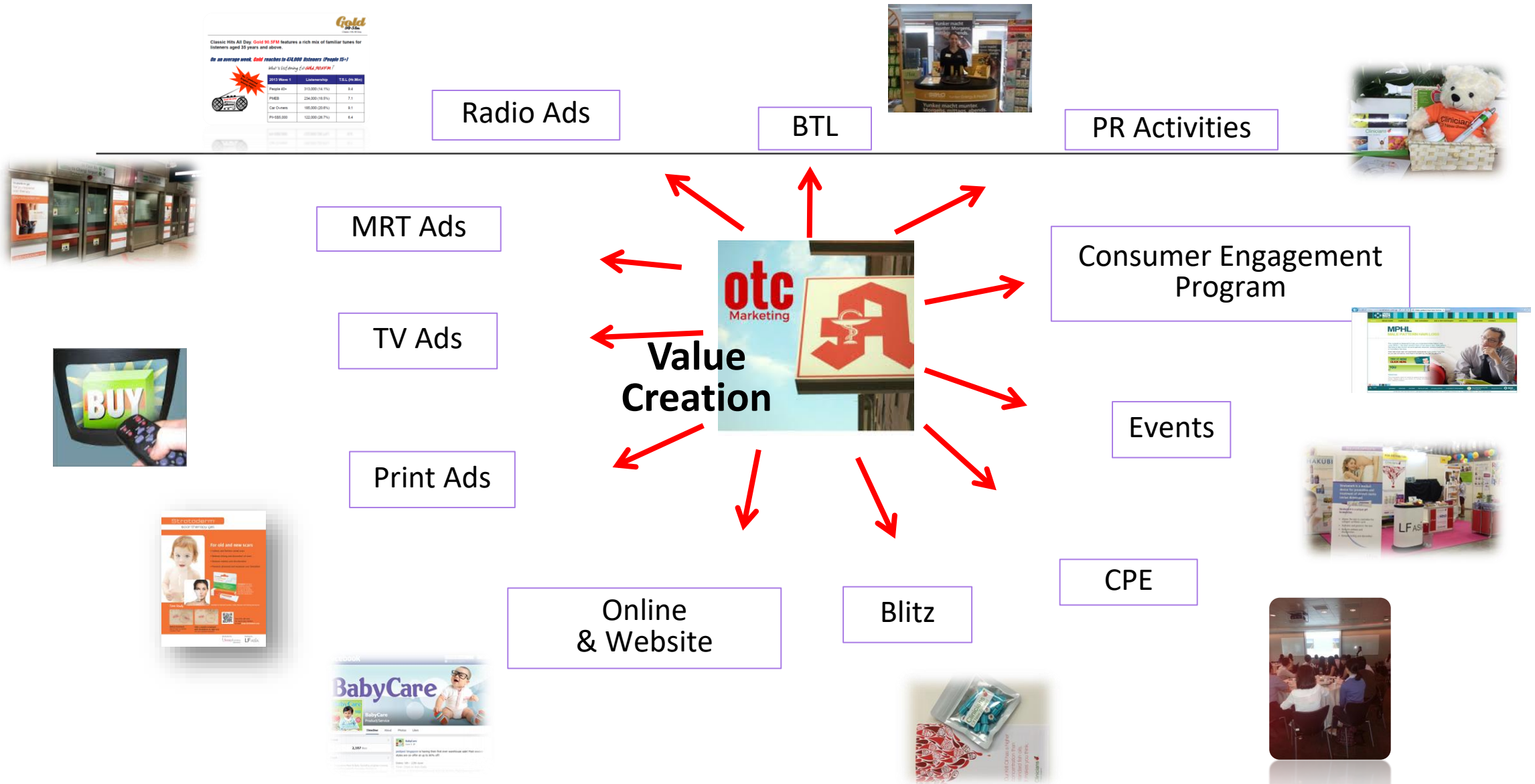
Omni-channel is a **multichannel approach** to sales that seeks to provide the customer with a **seamless shopping experience** whether the customer is shopping online from a desktop or mobile device, by telephone or in a bricks and mortar store.

The term “omni-channel” may be a marketing buzzword, but it refers to a significant shift: marketers now need to provide a seamless experience, regardless of channel or device.

Consumers can now engage with a company in a physical store, on an online website or mobile app, through a catalog, or through social media.



Value Creation – OTC / Consumer Marketing

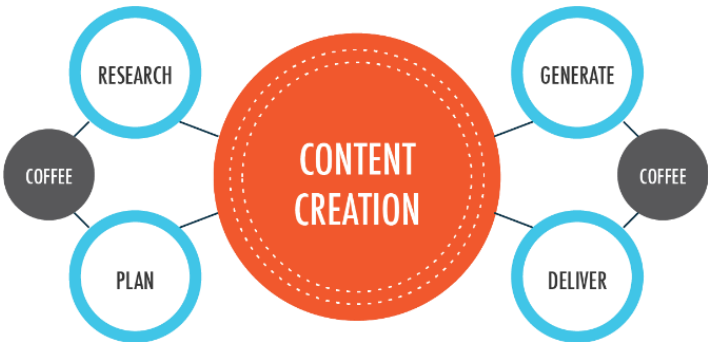


Social Media Marketing



Create Your Content

- Content: written words, images, videos or infographics.
- Quality content that lures and hooks prospects to your website.
- Use a content creation calendar as a guide on when to post, topics and the targeted social media sites.



Know Your End-Point (Vision / Objectives)

Know Your Customers/Consumers:

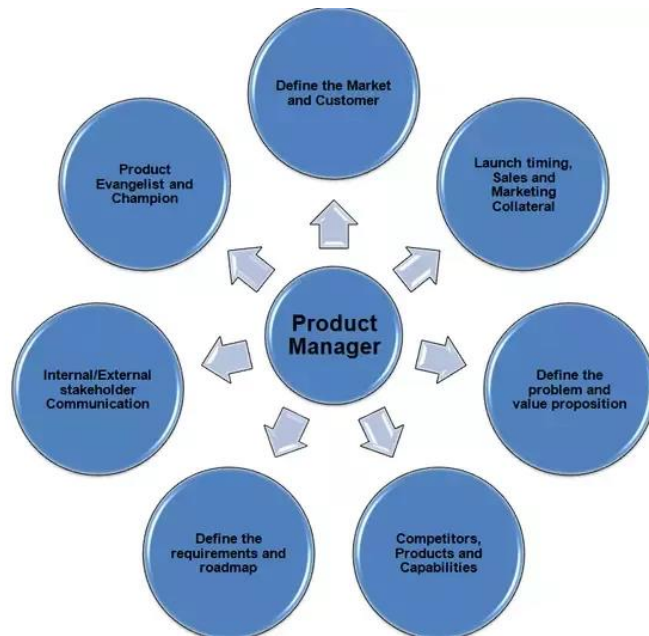
- Age, teens, youth, middle age, over 50 years etc.
- Whether in employment or not
- Location, living in urban or peri-urban areas
- Marital status, single, engaged, married, divorced, widow, widower
- Social media networks commonly used

Execute with Excellence (Scorecards)

Examples:

- Reach
- Number of shares made
- The rate of conversion
- Awareness levels
- Keep track of every activity

Product Management (Marketing)



Personal advice:

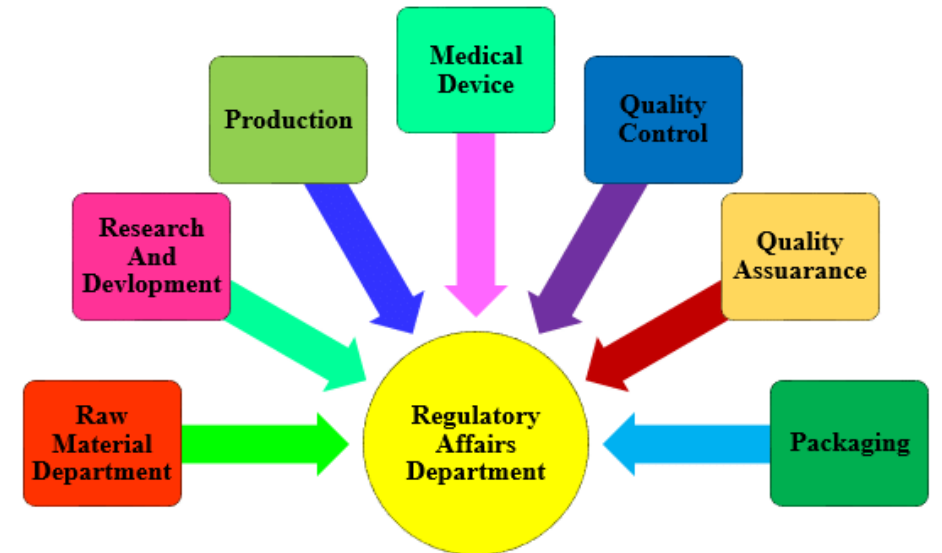
- Might be good to start off as a professional sales rep first before embarking on marketing
- Do a post-graduate diploma in marketing

Attributes:

- Meeting people
- **Strategic**
- Management & sales pressures
- Customer oriented
- **Good communicator**
- Motivator
- Sales experience
- **Organizational & executional skills**
- Marketing knowledge
- **Entrepreneurial (innovative)**
- Travels, etc, . . .



Career options in the Industry: **Regulatory Affairs**



Life as a Regulatory Affairs Executive...



Keyboard warrior mode!
(Emails & reports...)



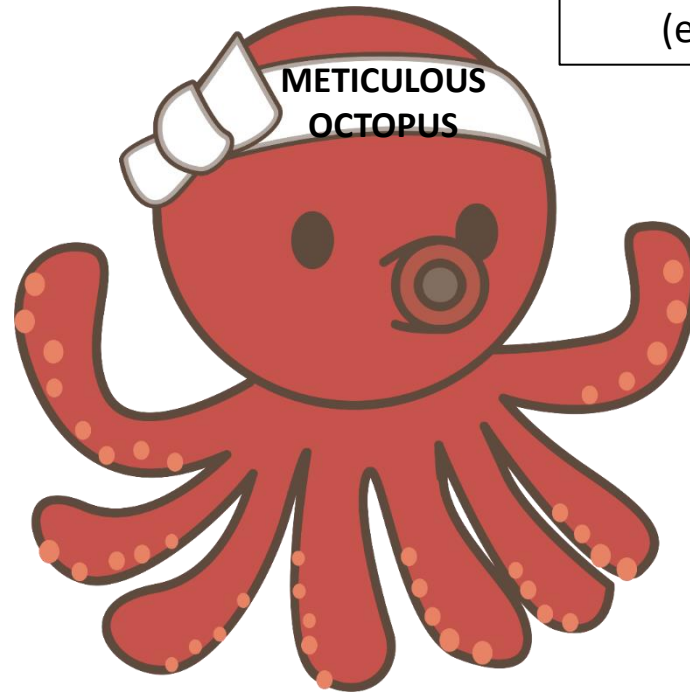
Review promotional materials
(Admire your works published
at retail pharmacies and online
platforms)



Attend to product enquiries
from HCPs/public



Ensure regulatory compliance
(CD, audits...)



Product Registration:
Key “middleman” btw the Authorities
(eg. HSA, SFA) and Principals

Meetings to coordinate
regulatory submissions

Celebratory meals for
new product approvals
and successful audits!

Medical Science Liaison

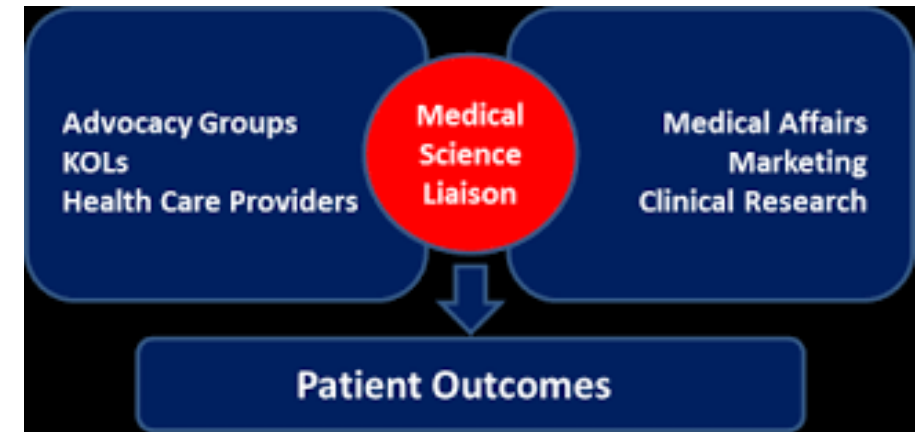
Networking with KOLs during
conferences/exhibitions



Career options in the Industry: **Medical Science Liaison**

What is a Medical Science Liaison?

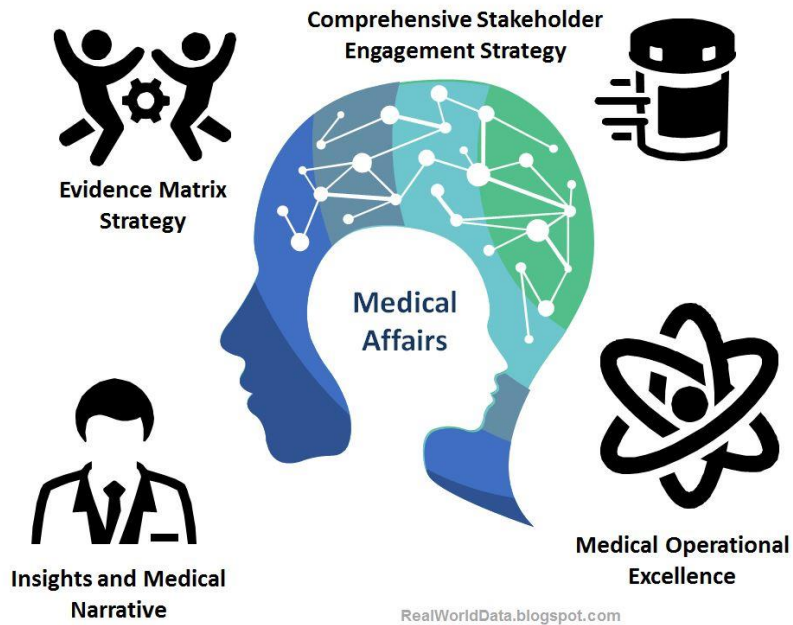
Medical Science Liaisons are vital in the success of a company. They work throughout a product's lifecycle, help to ensure that products are utilized effectively, serve as **scientific peers and resources within the medical community**, and are **scientific experts to internal colleagues** at companies. However, the primary purpose of the MSL role is to **establish and maintain peer-peer relationships with leading physicians**, referred to as Key Opinion Leaders (KOL's), at major academic institutions and clinics.



REAL WORLD DATA

Pharma 2021 Future – Medical Affairs as a Key Player

February 14, 2019



Medical Affairs are becoming a central function and core element of all pharma operations.

- **Medical launch leadership** with trusted partnership with Key opinion leaders (KOLs) or Healthcare Professionals (HCPs) and medical societies
- Drive **scientific exchange communications**, treatments awareness and early patients screening
- Track the emergence of new **KOLs** and other influencers.
- **Advance medical evidence insights** based on standard of care and market access
- Industry leading **data dissemination and education** (*publications, continuous medical education, standalones*)
- **Cross-functional collaboration** between medical-clinical-commercial-market access and global/regional affiliates (when speaking about multi-national companies)

Becoming a MSL . . .

Attributes:

- Clinical knowledge, continuous improvement
- Meeting people (networking)
- Confident, charismatic, ...
- Good communicator / Presentation skills
- Commercial vs Clinical
- Travels
- etc, etc, . . .



MSL Activities

Regardless of which country the MSL works in, their activities are consistent...



Consistent

The vast majority of MSL activities are identical and primarily revolve around engaging with Key Opinion Leaders (KOLs).

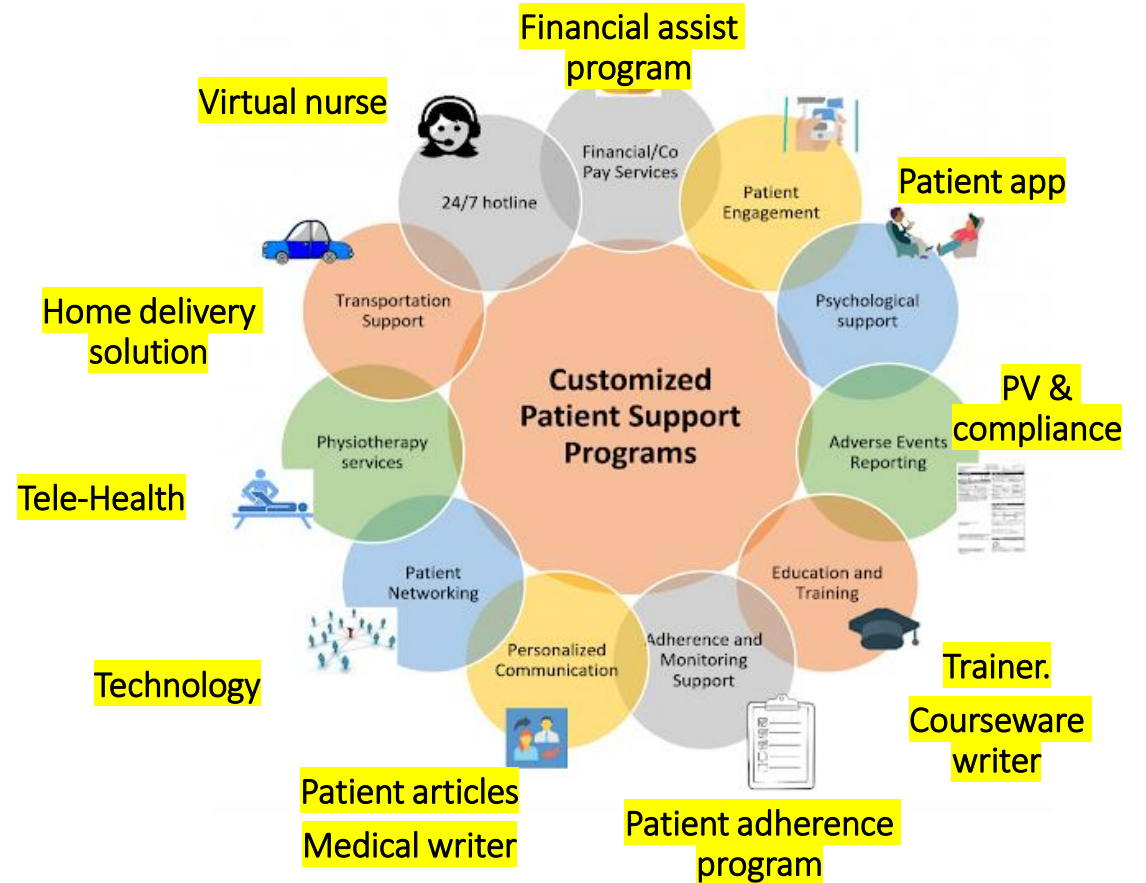
Engagement

Over 98% of MSLs reported that they were responsible for KOL relationship management and around 92% reported educating KOLs.



Career options in the Industry:

Patient Support Program



Career options in the Industry:

Training & Education (TAE Professionals)



WSQ Diploma in Design and Development of Learning for Performance (DDDLP)

Personal advice:

Consider ACLP and/or DDDL to become a certified Adult Educator.

Contributions:

- Internal:
 - Product trainings
 - Corporate talks
 - Clinical reviews
 - Pharmacovigilance training
- External:
 - Customers / Assistants, ...
 - Institutions talks
 - Exhibitions

Career options in the Industry:

Biopharmaceutical Manufacturing

Source: SkillsFuture Framework:

- 3% of Singapore's GDP (2016).
- >7000 jobs.
- >29 facilities manufacturing products ranging from chemical, biological and cell therapy products to nutritional.
- Value-add and manufacturing output S\$11b to S\$17b.
- 8 out of 10 top pharmaceutical companies have facilities in Singapore: Pfizer, Novartis, Sanofi, Amgen, Takeda,



Contributed 3% to Singapore's 2016 nominal GDP



Accounts for close to 7,000 jobs



Singapore has a base of **more than 29 facilities** manufacturing products ranging from **chemical, biological and cell therapy products, to nutritional**



In 2016, Biopharmaceuticals Manufacturing Value Add and Manufacturing Output stood at around **SG\$11B and SG\$17B** respectively



Eight out of top 10 pharmaceutical companies have facilities in Singapore, manufacturing four out of the top 10 drugs by global revenue

What can I work as . . . ?

➔ Engineer. QAQC...

- Process Dev't/Manufacturing Science & Technology (MS&T)
- Quality Assurance & Quality Control (QA&QC)
- Production
- Engineering & Maintenance



Skills in demand . . .

- Continuous manufacturing skills, green, ...
- Quality management & compliance
- Regulatory affairs, pharmacovigilance
- Process management, automation (technology), ...

[SSG | Skills Framework for Biopharmaceuticals Manufacturing \(skillsfuture.gov.sg\)](https://skillsfuture.gov.sg)

DESIRED ATTRIBUTES



Analytical

Enjoys analysing things from all angles to solve problems



Integrity

Demonstrates sound moral and ethical principles at work and in relationships with co-workers and stakeholders



Meticulous

Pays attention to details and accuracy



Responsible

Recognises the implicit obligation on accountability to ensure work processes run reliably and efficiently



Safety-minded

Recognises the implicit responsibility for ensuring safe work practices and conditions in a high-risk environment



Team Player

Understands that each person is part of a larger team working together to bring about success at the workplace

SKILLS IN DEMAND



Continuous Manufacturing Skills

Enable continuous flow, end-to-end manufacturing strategies



Compliance and Regulatory Affairs Skills

Manage regulatory issues set by international regulatory authorities to meet regulatory demands throughout the life of a product



Green Manufacturing Skills

Innovate and enable ecologically friendly processes to support sustainable green manufacturing



Multi-product Operations Skills

Apply processes to manufacture variety of products with different specifications



Process Analytical Technology Skills

Apply automated process control methods throughout the value chain of the product

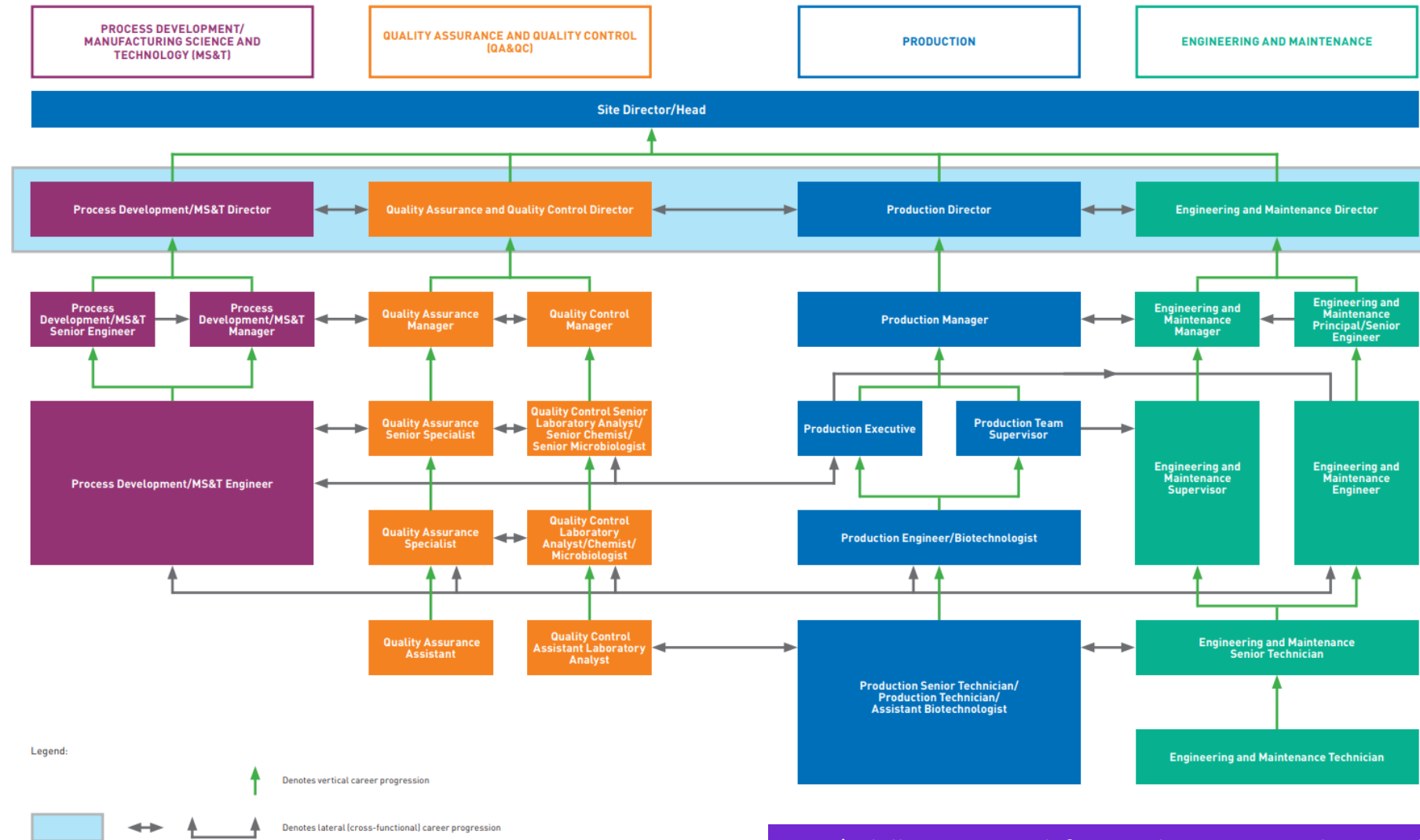


Quality by Design Skills

Integrate target product quality into biopharmaceuticals manufacturing processes

SKILLS FRAMEWORK FOR BIOPHARMACEUTICALS MANUFACTURING

Career Pathways



Legend:

↑ Denotes vertical career progression

↔ Denotes lateral (cross-functional) career progression

The Career Map serves as a reference to reflect the available job roles and possible career pathways in the biopharmaceuticals manufacturing industry, which may vary depending on the organisation's structure and business context. The Career Pathway would depend on individual aspiration, performance, capability, experience and the organisation's needs.

SSG | Skills Framework for Biopharmaceuticals Manufacturing (skillsfuture.gov.sg)

Career options in the Industry:

Quality Management

- **Challenges:**

- Resistance from other departments.
- Lean team
- Diversified customer and regulatory requirements to fulfil.

- **Attributes:**

- Meticulous and detailed-minded.
- Communication & writing skills.
- Resilient & Positive mindset.
- Firm but flexibility (balance btw Compliance vs Commercial).
- Good time management.
- Leadership.

- **Advice** for new graduates: Embrace new challenges with an open mind.



Work day for a Quality & Compliance Executive (Logistic / Supply Chain Sector)

Attend **problem-solving** and operational meetings

Review and approve quality documents (eg. **SOP**)

Resolve issues in secondary assembly operations

Quality inspection of return goods

Quality release of redressed goods and packaging materials



Resolve product complaints between customers and product owners

Ensure quality compliance to **ISO 9001, ISO13485** and principals' requirements

Attend to queries via emails

Manage a team of secondary assemblers

Host internal, principal and regulatory **audits**

*Question:
Are you trained in
QC & compliance, GMP, GDP, SOP, ...?*

Career options in the Industry:

Pharmacovigilance & Compliance

Novartis reaches \$945m settlement of US bribery lawsuit (2020)



Teva agrees to pay US\$519m to settle corruption charge (2016)



GSK hit with €380m corruption fine in China (2014)



Big Pharma KEY FINES

In such a high-risk industry, exhaustive due diligence procedures are of critical importance. Yet examples of failures to implement such measures litter recent history with large fines and regulatory penalties meted out to companies that have transgressed.

\$70 million

Johnson & Johnson

2011, Johnson & Johnson had to pay \$70 million after admitting that it had bribed doctors in Europe and Iraq to win contracts.

[SEC, April 7, 2011](#)

\$55 million

Bio-Rad Laboratories

2014 Bio-Rad Laboratories, which makes medical diagnostics products, paid \$55 million to bring to an end American investigations into allegations it did not prevent bribery of government officials in Russia and other countries.

[SEC, Nov 3, 2014](#)

Pfizer

\$60 million

2012, Pfizer settled charges in the US that its overseas subsidiaries had bribed doctors and health officials in order to gain regulatory approval for the company's drugs and boost sales in 12 countries. The firm had to pay \$60 million.

[SEC, Aug 7, 2012](#)

Smith & Nephew

\$22.2 million

2012 Smith & Nephew, Europe's biggest maker of artificial hips and knees, agreed to pay \$22.2 million to settle allegations by the US Justice Department that it had bribed officials in Greece.

[SEC, Feb 6, 2012](#)

\$14 million

Bristol-Myers Squibb

October 2015 pharmaceutical manufacturer Bristol-Myers Squibb agreed to pay more than \$14 million in fines to settle charges that its joint venture in China paid cash and other benefits to state-owned hospitals in exchange for prescription sales.

[SEC, Oct 5, 2015](#)



Career options in the Industry: Pharmacovigilance & Compliance

Legal obligations imposed by the PDPA

The PDPA imposes **9 OBLIGATIONS** on the following activities –

1. **COLLECTION:** Any act through which an organisation obtains possession or control of personal data;
2. **USE:** Any act by which an organisation employs the use of personal data;
3. **DISCLOSURE:** Any act by which an organisation discloses or transfers personal data to any other organisation;

PD

Copyright © Information Privacy Act 2002

Enforcement of the PDPA

1. The Act is enforced by the **Personal Data Protection Commission (PDPC)**. The Commission will investigate and take action if breaches occur.
2. For breaches of the **personal data protection rules**, the Commission may –
 - a) Issue warnings;
 - b) Issue directions to ensure compliance (e.g. to stop collecting, using or disclosing personal data, to destroy personal data, etc.);
 - c) Impose a **financial penalty of up to \$1 million per breach**.
3. Individuals who suffer loss or damage directly as a result of a contravention of the PDPA may also commence civil proceedings against the organisation.

PD

Copyright © Information Privacy Act 2002

The 9 Obligations Imposed by the PDPA

1. Consent
2. Purpose limitation
3. Notification
4. Access and Correction
5. Accuracy
6. Protection
7. Retention Limitation
8. Transfer Limitation
9. Accountability



PD

Copyright © Information Privacy Act 2002

The Personal Data Protection Act ("PDPA")

The PDPA was passed by Parliament in 2012 and covers 2 areas –

1. Established the **National "Do Not Call" Registry** since **1 January 2014**
2. Sets out the **Personal Data Protection Rules** governing the collection, use, disclosure and care of an individual's personal data by organisations since **2 July 2014**

Today, vast amounts of personal data are being used and transferred by organisations for a variety of reasons (marketing, research, etc). Growing concerns from individuals about how their personal data is being used.

The law seeks to strike a balance between right of individuals to prevent misuse of their personal data and the need of organisations to use personal data for legitimate and reasonable purposes.

PD

Copyright © Information Privacy Act 2002

Personal Data Protection Act ("PDPA")

Proposals to amend data protection law include stiffer fines

PUBLISHED THE STRAITS TIMES: MAY 15, 2020, 5:00 AM SGT

In case of a data breach, organizations may soon be slapped with fines of up to **10 per cent of their annual gross turnover or \$1 million, whichever is higher**, if proposed amendments to the Personal Data Protection Act go through.

Currently, companies are liable for a fine of up to \$1 million, but the authorities are seeking stronger deterrents for data breaches.

The stricter penalty will be aligned with the law in other jurisdictions, such as the European Union, the Ministry of Communications and Information and privacy watchdog Personal Data Protection Commission (PDPC) said yesterday in their fourth public consultation exercise to amend the Act.

MONTHLY GROSS WAGES OF SELECTED OCCUPATIONS IN MANUFACTURING, JUNE 2016

Occupations	Gross Wage	
	25th Percentile (\$)	75th Percentile (\$)
Chief Operating Officer/General Manager	8,357	18,810
Managing Director/Chief Executive Officer	5,000	15,000
Manufacturing Plant/Production Manager	5,477	10,100
Premises and Facilities Maintenance Manager (including Building Security Manager)	5,721	10,232
Quality Assurance Manager	5,850	10,900
Research and Development Manager	6,915	11,815
Technical/Engineering Services Manager (e.g. Shipyard Manager)	6,341	11,067
Chemical Engineer	4,050	6,239
Chemist	4,095	6,272
Electrical Engineer	3,987	6,156
Industrial and Production Engineer	4,200	6,350
Mechanical Engineer	4,070	6,068
Assistant Manufacturing Engineer	3,306	5,351
Chemical Engineering Technician	3,028	5,466
Chemistry Technician	2,519	3,985
Electrical Engineering Technician	2,878	5,000
Food Science Technician	2,308	3,778
Manufacturing Engineering Technician	2,859	4,320
Mechanical Engineering Technician	3,001	4,425
Chemical Processing and Chemical Products Plant and Machine Operator	2,440	4,150

Career options in the Industry: **Food Manufacturing**



948 establishments



Employs about **30,000 workers**



Contributed to **1% of Singapore's GDP**



\$10.1 Billion in total output

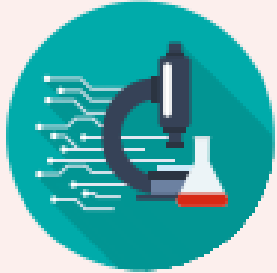


Contributed **\$3.8 Billion** in value-added



Total export output of
\$6 Billion in 2016

SKILLS IN DEMAND



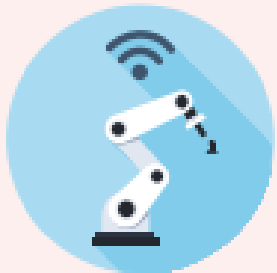
Food Science and Technology Skills

- Active and Smart Packaging
- Food Product Improvement
- New Product Introduction



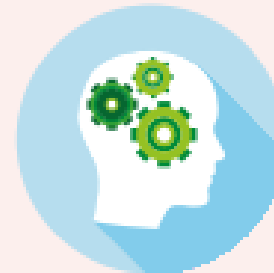
International Business Development Skills

- E-Commerce Campaign Management
- International Marketing Programmes Management
- New Export Market Entry Strategy Formulation



Automated Manufacturing Skills

- Advanced Processing Technology
- Green Manufacturing Implementation
- Data Synthesis

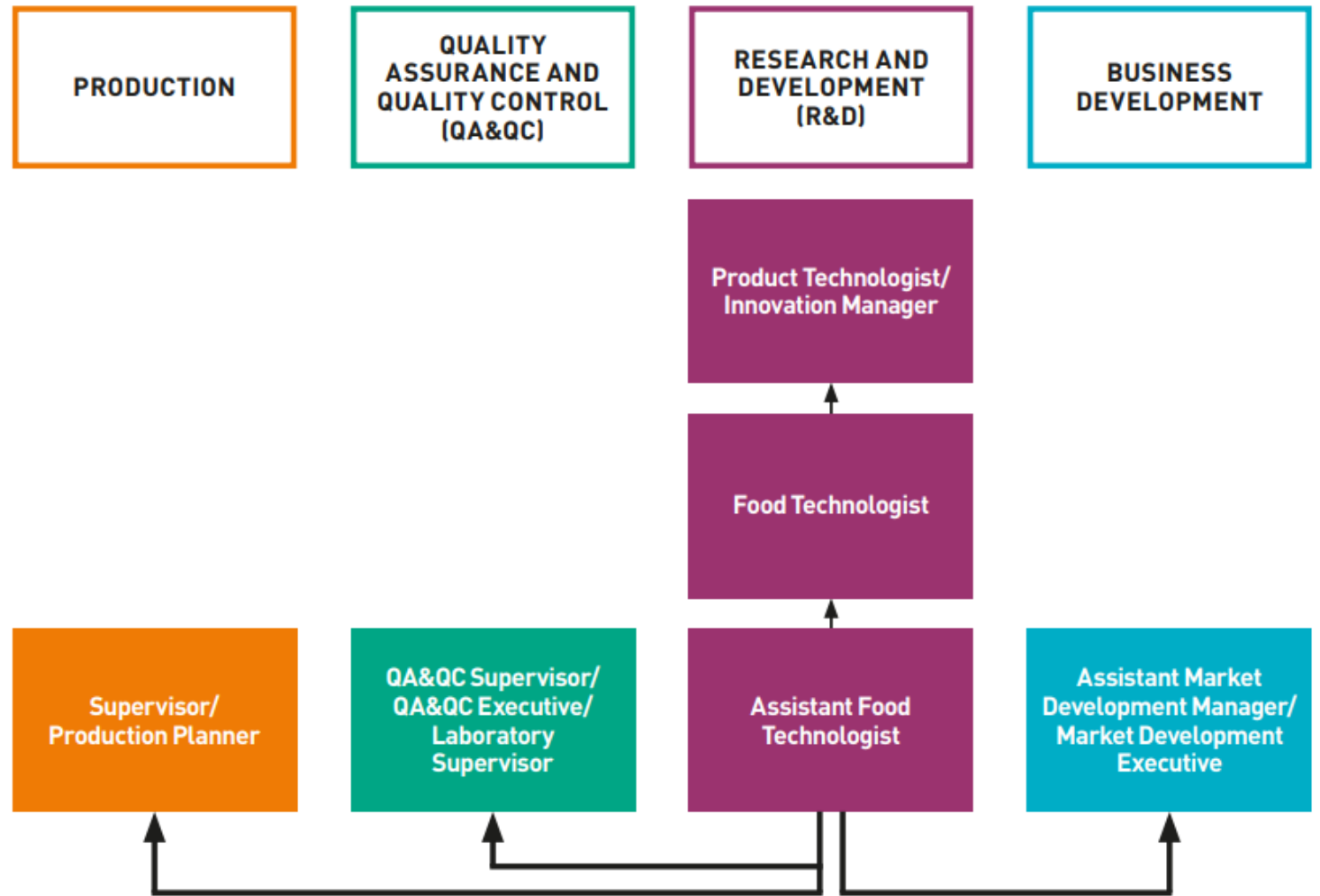


Management Skills

- Innovation Management
- Strategy Development

What can I work as . . . ?

→ Production. QAQC. R&D.
S&M/Biz Dev't

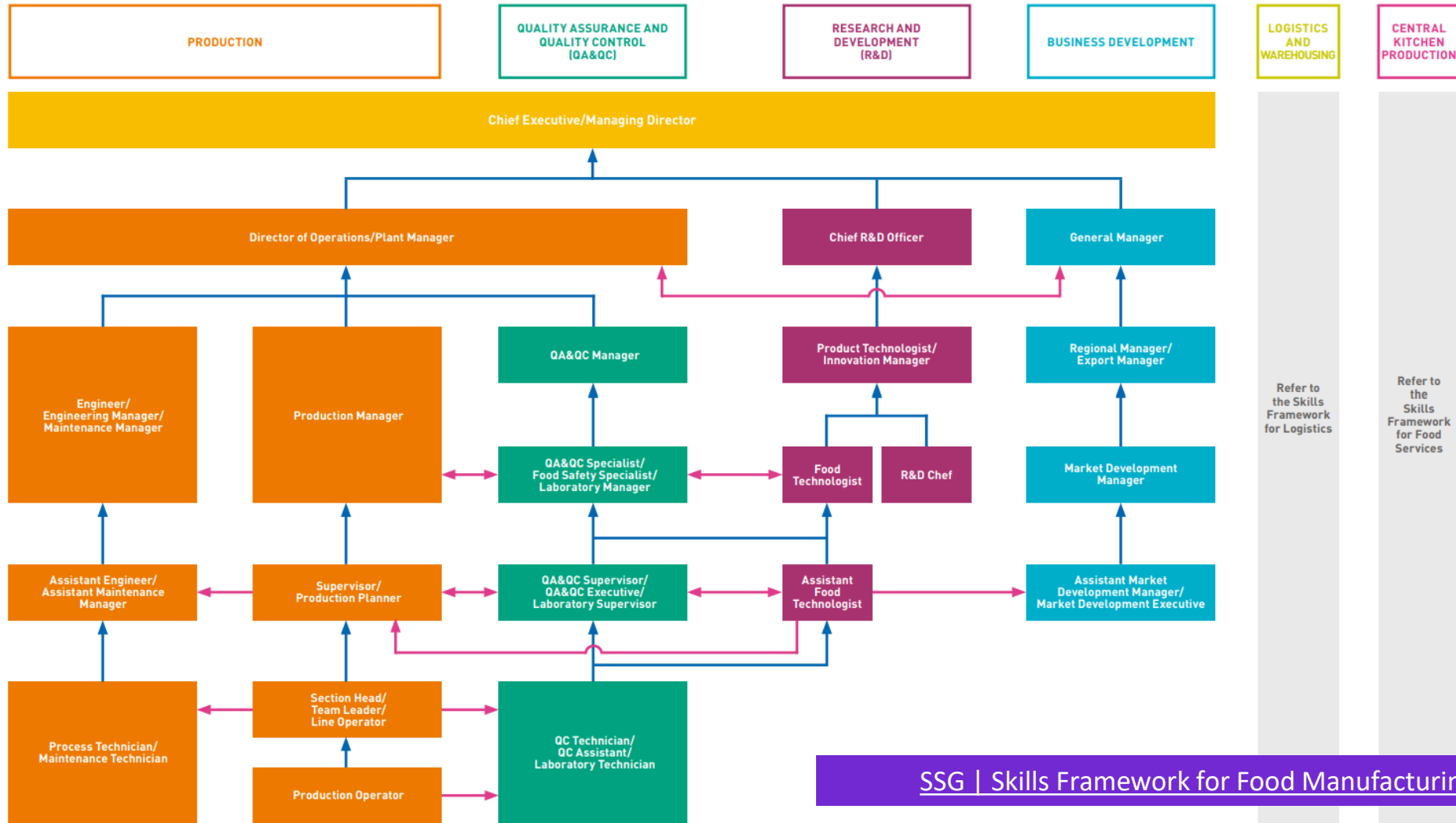


MONTHLY GROSS WAGES OF SELECTED OCCUPATIONS IN MANUFACTURING, JUNE 2016

Occupations	Gross Wage	
	25th Percentile (\$)	75th Percentile (\$)
Manufacturing labourer and related worker	1,112	1,808
Supervisor/General foreman (food processing, woodworking, garment, leather and related trades)	2,563	3,652
Stationary plant and machine supervisor/General foreman	2,900	4,265
Manufacturing plant/Production manager	5,477	10,100
Manufacturing engineering technician	2,859	4,320
Assistant manufacturing engineer	3,306	5,351
Industrial and production engineer	4,200	6,350
Quality checker and tester	1,452	2,283
Quality assurance manager	5,850	10,900
Food science technician	2,308	3,778
Food and drink technologist	3,700	8,128
Research and development manager	6,915	11,815
Business development executive	2,990	4,950
Business development manager	5,900	12,106
Technical sales professional	3,500	5,270
Chief operating officer/General manager	8,357	18,810
Managing director/Chief executive officer	5,000	15,000

SKILLS FRAMEWORK FOR FOOD MANUFACTURING

Career Pathways



Legend:

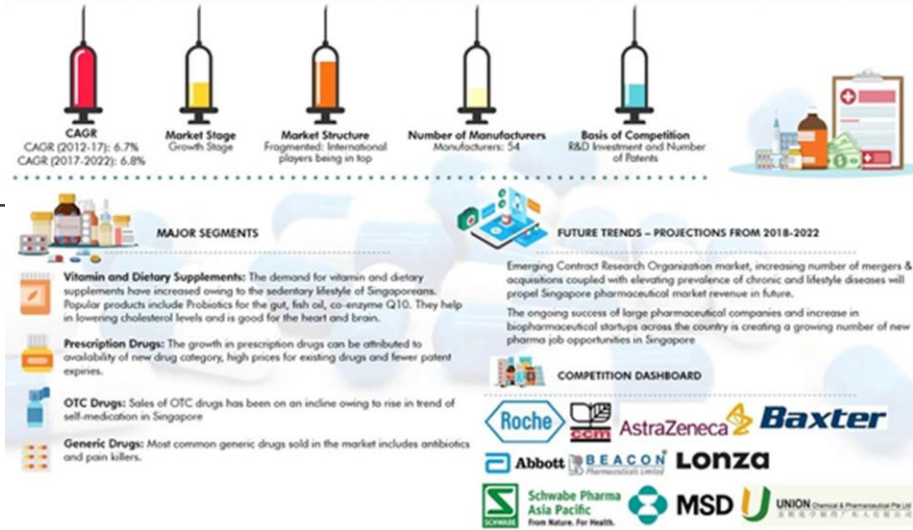
→ Vertical progression → Lateral progression

The Career Map serves as a reference to reflect the available job roles and possible career pathways in the food manufacturing sector, which may vary depending on company's structure and business context. The career progression pathways would depend on individual aspiration, performance, capability, experience and company needs.

Clinical Research Organizations / Labs / ...



Singapore Pharmaceutical Market is Expected to Reach USD 1.8 Billion by 2022: Ken Research



Digital / AI / e-Commerce / Data Analytics / ...



CLINICAL RESEARCH SERVICES

Pharmaceuticals | Nutraceuticals | Herbs | Cosmetics

Contract Research | Clinical Monitoring | Medical Writing | Regulatory Submission | Statistical Analysis



- Clinical Operations
- Clinical Trial Monitoring
- Medical Writing
- Statistical Analysis
- Project Management
- Regulatory Submission
- Data Management
- Consultancy

Types of documents written by medical writer

- Research proposals
- Investigator brochures
- Informed consent documents
- Clinical study reports
- Clinical trial protocols
- Package inserts
- Patient information leaflets

Career options in the Industry (Others)

So many options...

Which is "best" for me...?



Which is “Best” for me...?

Know “yourself” & your career goals, aspiration, ...

• **KNOW YOURSELF:**

- Like to meet people?
- “Thick” skin? Shy?
- Freedom or “9 to 5”? Working weekends? On call...?
- Physical pressure vs mental pressure, sales pressure...?
- Like to travel? “Homely” type?
- Status conscious: job, company?
- Monetary reward vs job nature?
- Etc, etc, ...

• **JOB & COMPANY:**

- Job (clinical) knowledge
- Focus vs multi-tasks
- Clinical environment vs retail environment vs office environment vs “field” works?
- Career development / opportunities
- Travels (esply if regional role)
- Local vs MNC?
- “Big” vs “small” companies?
- Etc, etc, ...

What are the attributes of a “Ideal” (good) employee?

- **PERSONAL QUALITIES (examples):**

1. Communication skills
2. Decisiveness
3. Dependability
4. Independence
5. Creativity
6. Human relations skills
7. Teamwork
8. Initiative
9. Adherence to policy
10. Deportment

- **PERFORMANCE (examples):**

1. Job knowledge
2. Job scope achievement
3. Productivity
4. Effectiveness & accuracy
5. Problems analysis and judgement
6. Availability
7. Organizing ability
8. Administrative skills
9. Maintenance and operation of equipment
10. Responsibility

“PTCA” Qualities:

Proactiveness/Positiveness. Teamwork/Transparency. Communication/Commitment. Action-oriented/Attitude

Strategic Achiever

Inspired
Relentless
Victorious

Have a BIG DREAM
Think strategically
Choose stretch steps

Be proactive
Be creative
Be persistent

A graphic featuring a blue staircase with four steps. Silhouettes of people are shown at different stages: one on the first step, two on the second, one on the third, and one on the fourth. Text is arranged around the staircase. On the left, the words 'Inspired', 'Relentless', and 'Victorious' are stacked vertically. On the right, three red arrows point to the text 'Be proactive', 'Be creative', and 'Be persistent'. At the bottom left, three red arrows point to 'Have a BIG DREAM', 'Think strategically', and 'Choose stretch steps'. A man's head and shoulders are visible in the bottom right corner, pointing towards the viewer.

How to Be Successful in Life

See your goal
Understand the obstacles
Create a positive mental picture
Clear your mind of self doubt
Embrace the challenge
Stay on track
Show the world you can do it

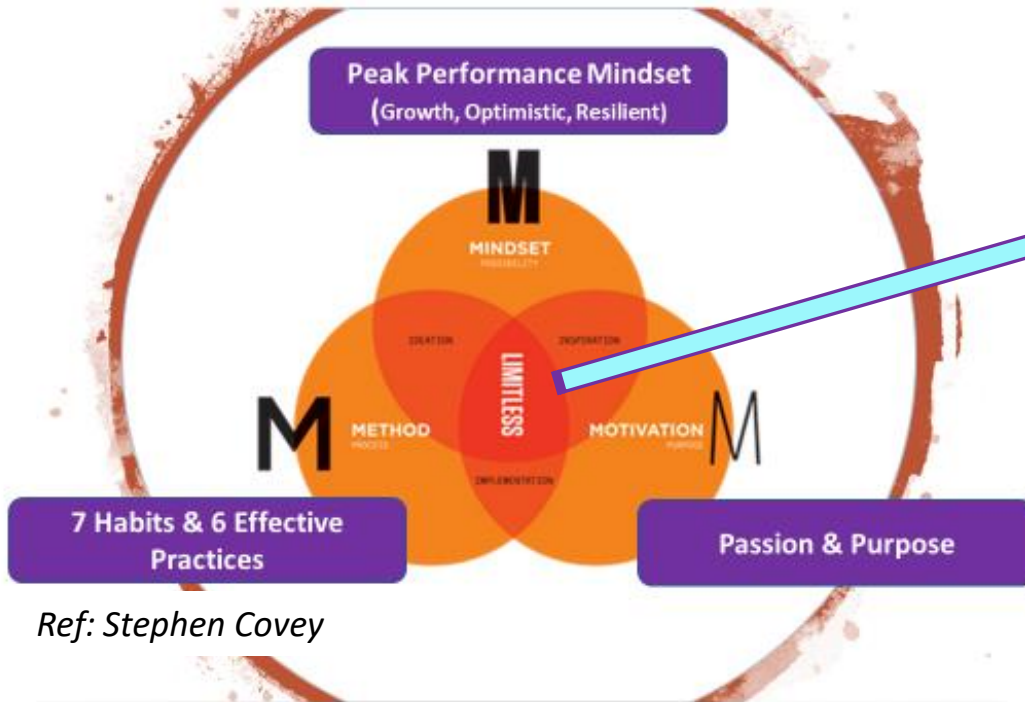
SUCCESS

A graphic showing a white silhouette of a person climbing a red staircase that forms an upward-pointing arrow. The word 'SUCCESS' is written in red above the top of the arrow. To the right of the staircase, the word 'SUCCESS' is spelled out vertically using large, grey letters, with each letter followed by a short sentence: 'S'ee your goal, 'U'nderstand the obstacles, 'C'reate a positive mental picture, 'C'lear your mind of self doubt, 'E'mbrace the challenge, 'S'tay on track, and 'S'how the world you can do it.

Whatever you do . . .

Take home message . . .

1. Have **the “3Ms”** as your **“Limitless Possibilities”**



Ref: Stephen Covey

Mindset: Peak Performance Mindset

Motivation: Passion & Purpose

Methods: 7 Habits of Highly Effective People

=

The Limitless Possibilities in You
(Your Personality)

Ref: Limitless, Jim Kwik

2. Have **Right Attitude** in whatever you do . . .

IT IS YOUR *attitude*
MORE THAN YOUR *aptitude*
THAT DETERMINES YOUR *altitude*
— Ken Ellis



IQ VS EQ (Intelligent Quotient Vs Emotional Quotient)

- ❖ Two different kinds of intelligence
- Intellectual
- Emotional

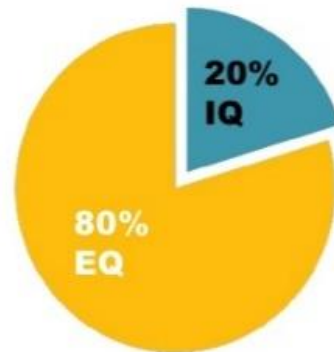


3. Build up your **EQ** . . .

IQ v/s EQ

(Intelligence Quotient v/s Emotional Quotient)

- The research shows that IQ can help you to be **successful** to the extent of **20** percent only in life. The rest of **80** percent **success** depends on your EQ

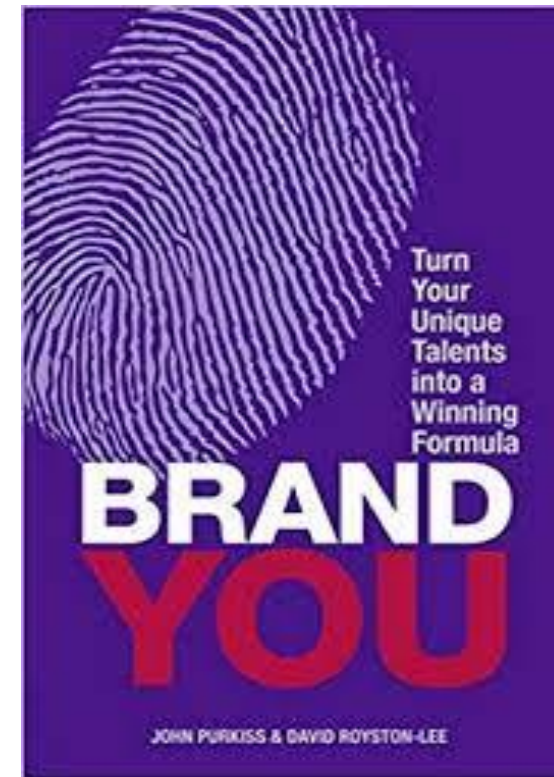


4. Build up your **Networks** & Networking Skills ...

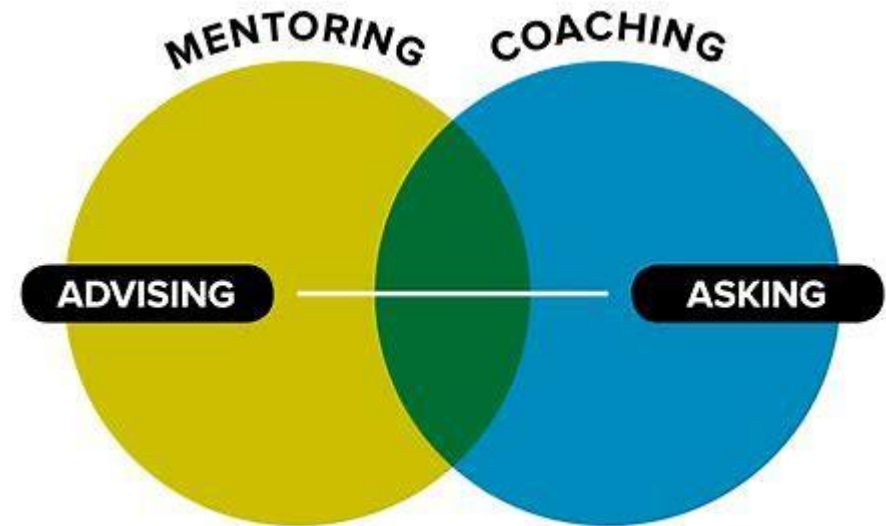
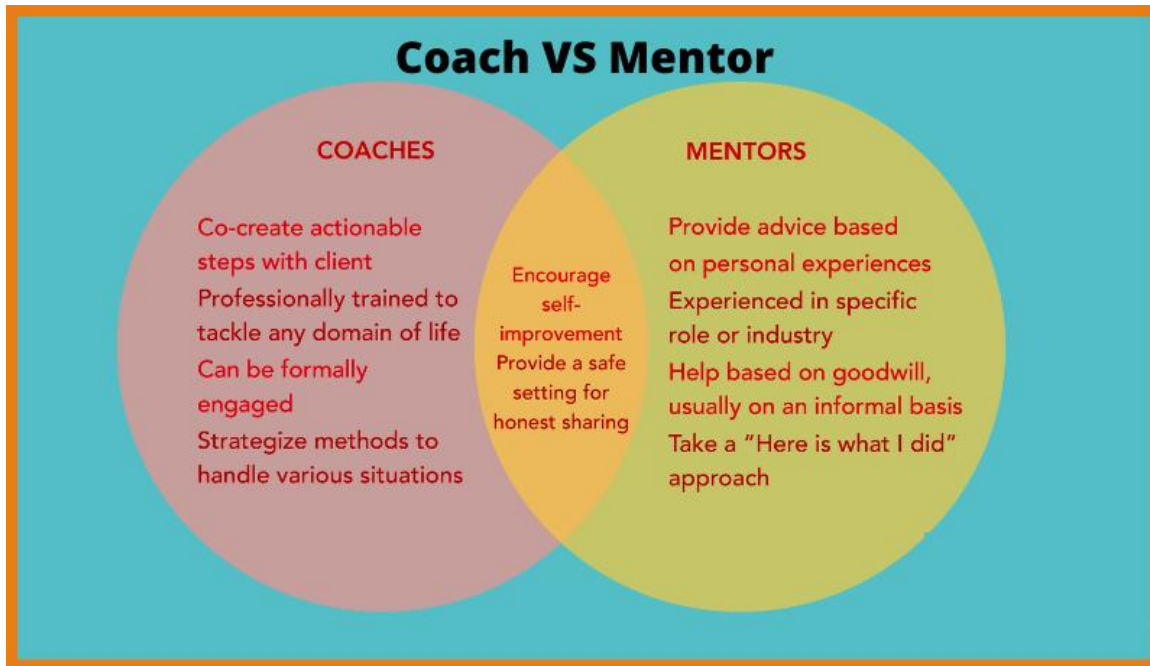
5. Build up your **“Brand”** through Strong **“Culture”** ...

Skills

- Networking skills
 - Communication skills
 - Listening skills
 - Questioning skills
 - Meeting skills
 - Planning skills



Get Yourself a Good **Mentor** or a **Career Coach** . . .



Career Prospects

- : Commercial (S&M, RA, MSL, ...)
- : Manufacturing (Engineers, QA, R&D, ...)
- : Institutions (eg. Hospital, Gov't agencies)
- : Others, including entrepreneurship and postgraduate studies

BANKING, FINANCE & LEGAL

Citibank, Bank of America Merrill Lynch, Deloitte & Touche

E.g. Risk Consultant, Relationship Manager, Management Associate, Patent Officer, etc

ENTREPRENEUR

Bio3D Technologies, TCM Trend

E.g. Owner of Bio 3D Printing Company, Owner & Physician of TCM Clinic.

POSTGRADUATE STUDIES

Cambridge University, DUKE NUS, NTU, Ross University

E.g. Medical Student, Veterinary Science Student, M.Sc & Ph.D Student.

HEALTHCARE

Tan Tock Seng Hospital, KK Women's & Children's Hospital, Jurong Health, Singapore General Hospital, Eu Yang Sang, Kin Tech Tong Clinic

E.g. Clinical researcher, Management Associate, Hospital Executive, Healthcare Operations Executive, Pharmaceutical Sales, Physician, Acupuncturist, etc

BIOMEDICAL & PHARMACEUTICAL

Lonza Biologics, Johnson & Johnson, Novartis Bio Pharma Operations, GSK, Amgen

E.g. Process Engineer, Manufacturing Biotechnologist, QA Specialist, Clinical Researcher, R&D Officer, Validation Engineer, etc

PUBLIC SECTOR

Ministry of Health, A*STAR, National Environmental Agency, Genome Institute of Singapore, Institute of Molecular & Cell Biology, Ministry of Education, Singapore Police Force, National Environment Agency, KK Women's & Children's Hospital, SingHealth

E.g. Research Officer, Health Policy Analyst, Forensic Specialist, Project Officer, Laboratory Manager, Gynaecologist, etc

OTHERS

E.g. Scientific Writer, Communication Account Executive, Scientific Journalist, Marketing Associate, Events, Service Executive, etc

Ref: Career Prospects and Development | School of Biological Sciences | NTU Singapore

Career Prospects

FIND YOUR NICHE

COLLEGE OF SCIENCE

BIOLOGICAL SCIENCES



INDUSTRIES	%
A Healthcare	32.7
B Scientific Research and Development	19.6
C Public Administration and Defence	19.0

COMMON JOB TITLES

Research Officer	Management Executive	Market Research Analyst
Medical and Pathology Laboratory Technician	Operations Officer	Health Services Manager
Medical Scientist	Administration Manager	Production Manager
	Life Science Professional	

Medical Scientist | Administration Manager | Production Manager
Life Science Professional

BIOMEDICAL SCIENCES



INDUSTRIES	%
A Healthcare	83.7
	3.4
	3.3
	3.3
	1.1
	1.1
	1.1
	1.1

COMMON JOB TITLES

General Practitioner	Research Assistant	Medical Officer
Physician	Management Executive	Administrator
Massage Therapist	Medical Scientist	Educator
Research Officer		

The data was compiled based on the Graduate Employment Survey from 2018, 2019 and 2020.

78

FIND YOUR NICHE

CHEMISTRY AND BIOLOGICAL CHEMISTRY

INDUSTRIES	%
A Scientific Research and Development	14.8
B Public Administration and Defence	12.0
C Pharmaceutical and Biological Products Manufacturing	11.7
D Electronic Products	11.3
E Chemical Manufacturing	8.1

COMMON JOB TITLES

Chemist	Management Executive	Chemical and Physical Science Technician
Research Officer	Procurement Manager	Chemical Engineer
Production Engineer	Administration Manager	Research and Development Manager
Medical and Pathology Laboratory Technician	Life Science Professional	
	Manufacturing Engineer	

Manufacturing Engineer

ENVIRONMENTAL EARTH SYSTEMS SCIENCE

INDUSTRIES	%
A Public Administration and Defence	24.4
B Business and Management Consultancy	15.6
C Information and Communication	13.3

COMMON JOB TITLES

Policy and Planning Manager	Systems Designer/Analyst	Environmental Engineer
Research Officer	Civil Engineer	Management Executive
Software Developer/Engineer	Data Scientist	Multimedia Developer
	Environment Research Scientist	Communications Professional

Scientist

The data was compiled based on the Graduate Employment Survey from 2018, 2019 and 2020.

79



SKILLSFRAMEWORK

SSG | Skills Framework (skillsfuture.gov.sg)

ACCOUNTANCY

[Get Template](#) [Learn More](#)

AIR TRANSPORT

[Get Template](#) [Learn More](#)

AEROSPACE

[Get Template](#) [Learn More](#)

BIOPHARMACEUTICALS MANUFACTURING

[Get Template](#) [Learn More](#)

BUILT ENVIRONMENT

[Get Template](#) [Learn More](#)

DESIGN

[Get Template](#) [Learn More](#)

EARLY CHILDHOOD

[Get Template](#) [Learn More](#)

ELECTRONICS

[Get Template](#) [Learn More](#)

ENERGY AND CHEMICALS

[Get Template](#) [Learn More](#)

ENERGY AND POWER

[Get Template](#) [Learn More](#)

ENGINEERING SERVICES

[Get Template](#) [Learn More](#)

ENVIRONMENTAL SERVICES

[Get Template](#) [Learn More](#)

FINANCIAL SERVICES

[Get Template](#) [Learn More](#)

FOOD MANUFACTURING

[Get Template](#) [Learn More](#)

FOOD SERVICES

[Get Template](#) [Learn More](#)

HEALTHCARE

[Get Template](#) [Learn More](#)

HOTEL & ACCOMMODATION SERVICES

[Get Template](#) [Learn More](#)

HUMAN RESOURCE

[Get Template](#) [Learn More](#)

INFOCOMM TECHNOLOGY

[Get Template](#) [Learn More](#)

INTELLECTUAL PROPERTY

[Get Template](#) [Learn More](#)

LANDSCAPE

[Get Template](#) [Learn More](#)

LOGISTICS

[Get Template](#) [Learn More](#)

MARINE AND OFFSHORE

[Get Template](#) [Learn More](#)

MEDIA

[Get Template](#) [Learn More](#)

PRECISION ENGINEERING

[Get Template](#) [Learn More](#)

PUBLIC TRANSPORT

[Get Template](#) [Learn More](#)

RETAIL

[Get Template](#) [Learn More](#)

SEA TRANSPORT

[Get Template](#) [Learn More](#)

SECURITY

[Get Template](#) [Learn More](#)

SOCIAL SERVICE

[Get Template](#) [Learn More](#)

TOURISM

[Get Template](#) [Learn More](#)

TRAINING AND ADULT EDUCATION

[Get Template](#) [Learn More](#)

WHOLESALE TRADE

[Get Template](#) [Learn More](#)

WORKPLACE SAFETY AND HEALTH

[Get Template](#) [Learn More](#)

PharmacistCoaches.Com

Experience + Theories + Customized Solutions,
plus Coach-toring = **Limitless Possibilities**



FOR MORE INFORMATION...



- PharmacistCoaches.Com
- +65 8228 5511 (WhatsApp)
- ykpng@pharmacistcoaches.com
- [LinkedIn/in/ykpng](https://www.linkedin.com/in/ykpng)

