24 September 2021

Financial Services | Speciality Finance

CTOS Digital (CTOS MK)

Buy

Just Warming Up; Initiate BUY

Target Price (Return):	MYR2.36 (+16%)
Price:	MYR2.04
Market Cap:	USD1,073m
Avg Daily Turnover (MYR/USD)	56.6m/13.5m

- **We initiate coverage on CTOS Digital with BUY and a DCF-derived TP of MYR2.36, 16% upside and 1% yield.** We expect it to book a 35% earnings CAGR over FY20-23F, on strong revenue growth and positive operating leverage. Our TP implies FY22F and FY23F P/Es of 63x and 51x. The valuation premium is supported by a structural growth outlook. We do expect its numbers to soften this year due to lockdown measures, but are bullish on its FY22-23F performance, premised on the emergence of digital banks and digitalisation by existing financial institutions.
- **DCF preferred, well-supported premium.** We derive our TP via a DCF valuation, and use P/E as a corroborative method. DCF is preferred, as it captures the change in tax rate post-2025 and various growth phases. We believe CTOS' premium valuation is well-supported by structural growth and minimal competition risk, on top of being *shariah*-compliant. With a long growth runway and well-established market leadership, CTOS should continue to be an investor favourite, so long as its growth materialises.
- **Entering a new era of growth.** We forecast FY20-23 net profit to expand at a 35% CAGR (2018-2020: 15%) – premised on new products driving higher per-customer revenue, the growth of its client base (eg commercial and consumers), and contributions from new verticals.
- **RHB vs Street: conservative FY21F, bullish FY22-23F.** Our FY21F earnings are 13% below the Street estimate, but that of FY22-23 are 7% and 11% above. We factored in the lockdown impact for FY21F, and our more bullish view of its key accounts segment in FY22F-23F, premised on the emergence of digital banks and digitalisation by existing financial institutions.
- **Large underpenetrated market = long runway to grow.** The size of the ASEAN credit reporting industry is a fraction that of developed nations (DM). Malaysia's credit reporting industry is projected to grow at a 13.2% CAGR over 2021-2025, according to IDC Analysis. We believe that CTOS in the best position to reap the benefits – given its extensive and diversified customer base, innovative product offerings and strong brand recognition.
- **Medium-term drivers: Expansion into new verticals.** CTOS has identified new verticals (insurance, automotive and real estate) to expand into. Based on IDC Analysis' forecast, these three sectors will see >40% 2021-2025F CAGR. While we do not expect these new verticals to be major revenue contributors in the next 2-3 years, the sectors nonetheless present huge untapped markets that have the potential to offer exponential returns in the medium term.
- **Success breeds success + high barrier to entry.** We believe CTOS' unique lifecycle credit management solutions and proprietary databases have created a positive feedback loop, enabling its digital solutions to become more "sticky" to customers. We also expect the company to maintain its Malaysian market leadership due to the high barriers of entry.

Forecasts and Valuation	Dec-19	Dec-20	Dec-21F	Dec-22F	Dec-23F
Total turnover (MYRm)	129	140	160	216	253
Recurring net profit (MYRm)	39	39	47	78	97
Recurring net profit growth (%)	31.5	0.5	19.3	66.9	25.0
Recurring P/E (x)	115.05	114.53	96.00	57.53	46.04
P/B (x)	56.8	40.5	14.5	13.2	11.8
P/CF (x)	66.58	136.31	83.77	57.39	46.47
Dividend Yield (%)	0.5	0.6	0.6	1.0	1.3
EV/EBITDA (x)	93.20	88.93	70.39	47.42	37.98
Return on average equity (%)	56.1	41.3	22.2	24.0	27.1
Net debt to equity (%)	27.3	91.6	net cash	net cash	net cash

Source: Company data, RHB

Analyst

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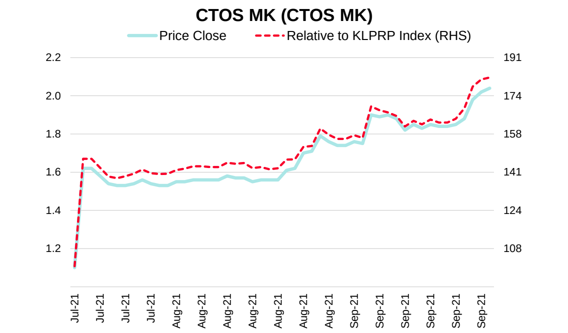
Share Performance (%)

	YTD	1m	3m	6m	12m
Absolute	0.0	25.9	0.0	0.0	0.0
Relative	0.0	23.4	0.0	0.0	0.0
52-wk Price low/high (MYR)					1.10 – 2.04



Source: Bloomberg

Overall ESG Score: *n.a.*

ESG scoring is unavailable at the moment given the lack of relevant data and disclosure.

Financial Exhibits

Asia
Malaysia
Financial Services
CTOS Digital
CTOS MK
Buy

Valuation basis

DCF

Key drivers

Key drivers to our earnings are:

i. Growth in key accounts' segmental ARPU;
ii. Growth in commercial and direct-to-consumer customers; and
iii. Contributions from associates.

Key risks

Key risks to our call are:

i. Unfavourable changes in the regulatory environment;
ii. Slower-than-expected topline growth; and
iii. Data leaks.

Company Profile

CTOS is the leading credit reporting agency (CRA) in Malaysia. It provides credit information and analytics digital solutions on companies, businesses and consumers for use by banks and businesses at each stage of the customer lifecycle and provide credit information and analysis to consumers.

Financial summary (MYR)	Dec-19	Dec-20	Dec-21F	Dec-22F	Dec-23F
Recurring EPS	0.02	0.02	0.02	0.04	0.04
DPS	0.01	0.01	0.01	0.02	0.03
BVPS	0.04	0.05	0.14	0.15	0.17
Return on average equity (%)	56.1	41.3	22.2	24.0	27.1

Valuation metrics	Dec-19	Dec-20	Dec-21F	Dec-22F	Dec-23F
Recurring P/E (x)	115.05	114.53	96.00	57.53	46.04
P/B (x)	56.8	40.5	14.5	13.2	11.8
FCF Yield (%)	1.4	0.6	1.0	1.6	2.0
Dividend Yield (%)	0.5	0.6	0.6	1.0	1.3
EV/EBITDA (x)	93.20	88.93	70.39	47.42	37.98
EV/EBIT (x)	107.41	104.57	84.25	53.87	42.21

Income statement (MYRm)	Dec-19	Dec-20	Dec-21F	Dec-22F	Dec-23F
Total turnover	129	140	160	216	253
Gross profit	108	121	141	177	207
EBITDA	48	50	61	90	111
Depreciation and amortisation	(6)	(7)	(10)	(11)	(11)
Operating profit	41	43	51	79	100
Net interest	(1)	(4)	(7)	0	1
Pre-tax profit	41	40	51	87	108
Taxation	(2)	(2)	(5)	(9)	(11)
Reported net profit	39	39	47	78	97
Recurring net profit	39	39	47	78	97

Cash flow (MYRm)	Dec-19	Dec-20	Dec-21F	Dec-22F	Dec-23F
Change in working capital	15.4	(13.2)	3.9	(4.5)	(4.0)
Cash flow from operations	67.4	32.9	53.6	78.2	96.6
Capex	(2.8)	(4.7)	(10.0)	(7.3)	(7.6)
Cash flow from investing activities	(58.9)	(104.0)	(44.5)	(9.7)	(10.1)
Dividends paid	(21.7)	(10.5)	(28.0)	(46.8)	(58.5)
Cash flow from financing activities	18.4	191.0	19.6	(46.8)	(58.5)
Cash at beginning of period	10.2	6.1	26.4	54.5	74.7
Net change in cash	26.9	119.9	28.7	21.7	28.0
Ending balance cash	37.1	125.8	55.1	76.1	102.7

Balance sheet (MYRm)	Dec-19	Dec-20	Dec-21F	Dec-22F	Dec-23F
Total cash and equivalents	6	26	54	75	103
Tangible fixed assets	20	19	19	20	21
Total investments	57	151	158	165	173
Total assets	142	276	345	383	425
Short-term debt	18	132	0	0	0
Total long-term debt	9	0	0	0	0
Total liabilities	63	160	36	42	46
Total equity	79	116	309	341	380
Total liabilities & equity	142	276	345	383	425

Key metrics	Dec-19	Dec-20	Dec-21F	Dec-22F	Dec-23F
Revenue growth (%)	16.9	8.8	13.8	35.4	16.8
Recurrent EPS growth (%)	19.6	0.5	19.3	66.9	25.0
Gross margin (%)	83.3	86.4	88.3	81.6	81.8
Operating EBITDA margin (%)	37.0	35.6	38.0	41.4	43.9
Net profit margin (%)	30.2	27.9	29.2	36.0	38.6
Dividend payout ratio (%)	56.4	63.2	60.0	60.0	60.0
Capex/sales (%)	2.2	3.4	6.3	3.4	3.0
Interest cover (x)	34.2	10.0	7.4	347.2	422.4

Source: Company data, RHB

Valuation & Recommendation

We initiate coverage on CTOS with TP of MYR2.36, derived using a DCF calculation and with P/E (vs peers) as a corroborative method.

Our TP implies P/E of 111x, 67x and 53x for FY21F-23F, against an earnings CAGR of 35% for the same period. We believe CTOS deserves the valuation premium for three main reasons:

i. **Structural growth scarcity.** CTOS' growth path is truly unique, in our view. Not only is the growth runway long (to catch up with DM peers), but also diverse with multiple sources. Short-term growth will be driven by higher penetration (both existing and new users), while mid-term growth will be via introducing more innovative products (eg credit-scoring for thin-file borrowers). Expansion to new verticals is another exciting mid-term driver as well. To top it all, this growth is largely structural and "apolitical";

ii. **Minimal competition concerns.** Unlike DM, where the market is split between three major players, CTOS' clear market leadership in Malaysia is a strong testimony of the deep moats surrounding its business. Its continuous effort in spearheading technological advancements will solidify its leadership among the incumbent credit reporting agencies. In addition, the highly regulated environment serves as a natural barrier of entry;

iii. ***Shariah*-compliant listing status.** The investable universe of *shariah* funds has always been limited – as it excludes big sectors such as banks and gaming, let alone *shariah*-compliant stocks that offer structural growth. With CTOS enjoying the "best of both worlds", the valuation premium is well justified in our view.

DCF valuation and scenario analysis

We prefer a DCF methodology due to the following:

i. About 80% of its revenue is recurring in nature;

ii. To capture the change in effective tax rate post 2025F; and

iii. To capture various distinct states/phases.

Our DCF consists the following four parts:

i. Forecasted period (2021-2025) where growth is predominantly driven by the increase in per-customer revenue and growth in customer base;

ii. New verticals period (2026-2030F) to capture mid-term growth driven by CTOS' expansion into the new verticals (eg insurance, automotive and real estate) and change in effective tax rate to 24%;

iii. Transitory period (2031-2036F) where growth and margins gradually normalise towards a steady state; and

iv. Steady state (terminal growth: 3%).

Figure 1: DCF valuation (simplified)

DCF workings	2021F	2022F	2023F	2024F	2025F	2026F	2027F	2028F	2029F	2030F
Revenue	159.84	216.43	252.84	295.39	340.60	395.10	458.32	531.65	614.05	709.23
EBIT margin (%)	*31.9%*	*36.7%*	*39.8%*	*41.7%*	*42.4%*	***42.4%***	***42.4%***	***42.1%***	***41.9%***	***41.6%***
EBIT	51.02	79.40	100.54	123.08	144.38	167.48	194.28	224.03	257.22	295.32
Tax rate (%)	*10.0%*	*10.0%*	*10.0%*	*10.0%*	*10.0%*	*24.0%*	*24.0%*	*24.0%*	*24.0%*	*24.0%*
EBIT (1 - t)	45.91	71.46	90.48	110.77	129.94	127.29	147.65	170.27	195.49	224.44
Depreciation & amortisation	9.99	10.73	11.10	11.59	11.65	11.97	12.93	13.96	15.04	16.21
CAPEX	(45.86)	(9.74)	(10.11)	(10.93)	(11.67)	(12.60)	(13.61)	(14.70)	(15.83)	(17.06)
Working capital	(5.47)	(4.84)	(4.01)	(4.49)	(4.67)	(5.41)	(6.28)	(7.28)	(8.41)	(9.72)
Free cash flow to firm	**4.57**	**67.62**	**87.47**	**106.94**	**125.26**	**121.24**	**140.69**	**162.25**	**186.29**	**213.87**
Cost of capital	6.9%	6.9%	6.9%	6.9%	6.9%	7.0%	7.0%	7.0%	7.0%	7.0%
Cumulated discount factor	1.07	1.14	1.22	1.31	1.40	1.50	1.61	1.72	1.84	1.97
PV of FCFF	**4.28**	**59.15**	**71.56**	**81.82**	**89.63**	**80.63**	**87.41**	**94.18**	**101.02**	**108.36**

Valuation workings	
PV of Forecast FCFF	306
PV of New Verticals FCFF	472
PV of Transition FCFF	747
PV of Terminal value	3,357
Cumulative PV of FCFF	**4,882**
Net cash/(debt)	54
Minority interest	0.0
Equity value	**4,937**
Associate stakes	263
Total equity value	**5,200**
Target price (MYR/share)	**2.36**

Valuation inputs	**2021-25F**	**2026-30F**	**≥2031F**
WACC	**6.92**	**7.04**	**7.32**
Cost of debt (1-t)	*n.a.*	*n.a.*	*n.a.*
Cost of equity	6.92	7.04	7.32
Rf	3.50	3.50	3.50
Equity premium	6.53	6.63	6.88
Beta	1.13	1.13	1.13

Source: Company data, RHB

Corroborative valuation multiples

FY22F should be more reflective. Our DCF-derived base-case value implies 63x and 51x FY22F-23F P/E. We think FY22F and valuation multiples are more reflective of CTOS' business-as-usual operations, given the central credit reference information system (CCRIS) fee waiver in FY21F.

Figure 2: Corroborative reference for fair value

Base year	FY21F	FY22F	FY23F
Implied P/E	111.2	66.7	53.3
Implied P/E (ex-associates)	*105.6*	63.3	*50.6*
Implied PEG	5.8	1.0	1.1
Implied EV/EBITDA	80.4	54.5	44.0
Implied P/BV	16.8	15.3	13.7

Source: Company data, RHB

Most of the publicly listed credit reporting agencies are based in DM. There are only two credit reporting agencies listed in Asia, namely Credit Bureau Asia and Business Online (BOL, which is CTOS' Thai associate). Both are trading at a discount to their peers, likely due to the lack of analyst coverage and low trading liquidity.

Our implied FY22-23F P/Es of 53-67x sees CTOS trading at a premium to regional peers. We believe the premium is justified, mainly on the company's stronger profit margins, better growth trajectory, minimal competitive risk and a longer runway, given the severely underpenetrated ASEAN market vs DM. The valuation also does not appear excessive on a PEG basis. Our estimated values imply a FY22-23F PEG range of 1.0-1.1, which is lower than the peer average, despite its strong growth outlook.

Figure 3: Peer comparison (valuation metrics)

Company	FYE	Country	Price @ 20 Sep (LC)	Mkt cap (USD)	PER			DY (%)	ROE (%)	PBV (x)	EV/ EBITDA	PEG	NP growth (%)	
					Actual	1 Yr Fwd	2 Yr Fwd	1 Yr Fwd	1 Yr Fwd	1 Yr Fwd	1 Yr Fwd		1 Yr Fwd	2 Yr Fwd
Experian	Mar	IR	3,329.00	41,948	44.7	37.7	33.8	1.2	32.6	11.1	21.4	2.9	18.8	11.5
Equifax INC	Dec	US	259.38	31,602	36.9	34.8	28.7	0.6	25.3	10.2	21.1	1.3	6.0	21.3
TransUnion	Dec	US	114.38	21,904	38.0	30.9	27.7	0.32	21.1	7.0	20.2	2.3	22.6	11.8
FICO	Sep	US	419.82	11,918	40.8	32.7	29.8	n.a.	129.0	57.1	23.7	3.1	24.6	9.8
GB Group	Mar	GB	911.50	2,453	38.1	45.8	40.8	0.41	9.4	n.a.	34.5	3.4	-16.9	12.1
Credit Bureau Asia	Dec	SG	1.24	211	41.3	34.1	29.6	2.98	19.0	7.6	9.7	1.9	20.0	15.3
Business Online	Dec	TH	11.10	273	50.5	40.9	30.5	1.98	34.2	15.2	30.1	0.9	6.0	34.1
Mkt. cap weighted avg.					40.6	35.2	30.8	0.8	38.1	15.1	21.6	2.4	15.7	14.3

Source: Bloomberg

Figure 4: Peer comparison (financial metrics)

Company	FY18-20 revenue CAGR	FY18-20 net earnings CACR	FY20 EBITDA margin	FY20 EBIT margin	FY20 net profit margin	FY20 net gearing (%)
CTOS	**12.8%**	**15.0%**	**35.6%**	**30.4%**	**27.9%**	**95.7%**
Experian	3.4%	1.9%	33.0%	22.0%	17.5%	132.6
Equifax INC	6.6%	6.8%	26.1%	16.4%	20.7%	83.9
TransUnion	5.4%	6.5%	35.8%	20.9%	21.2%	114.9
FICO	9.0%	19.5%	27.0%	22.9%	22.6%	227.4
GB Group	18.5%	22.3%	23.0%	11.5%	21.2%	11.9
Credit Bureau Asia	5.1%	7.8%	55.2%	45.8%	15.8%	Net Cash
Business Online	6.9%	19.7%	35.7%	30.1%	30.0%	Net Cash
Mkt. cap weighted avg.	**5.9%**	**7.3%**	**30.6%**	**20.2%**	**20.0%**	

Source: RHB, Bloomberg

Financial Overview

Earnings outlook: twin-turbo growth engine

The "2+1" drivers. CTOS' growth will be mainly driven by these three factors, in our view:

i. Growth in customer base and ARPU;
ii. Expansion into new verticals; and
iii. Potential regional expansion.

Our earnings forecasts and valuation only take into account (i) and (ii), as any possible acquisitions and investments remain contingent at this moment.

New era of growth. We project CTOS to register 19%, 67% and 25% earnings growth in FY20-23F, implying a 2021-2023F CAGR of +35% (vs 2018-2020 CAGR +15%). This will be largely driven by a strong FY20-23F revenue CAGR of 22%, led mainly by robust CAGR growth in the key accounts (+32%) and commercial (+14%) segments. We expect the consumer segment to record a CAGR of 37% and contribute 6% of FY23F revenue, up from 4% in FY20. The international segment will be solely driven by Basis' contribution following the disposal of CIBI Information (CIBI).

Margin improvement on operating leverage. Profit margins should also improve, as CTOS gains further operating leverage. Our FY21-23F net margins are 29%, 36% and 39% vs 2018-2020's c.27-30%. We project the cost of sales to grow in tandem with revenue, given its more "variable-cost" nature. The positive jaws should mostly come from administrative expenses – about two-thirds are fixed costs – and, to a lesser extent, selling expenses.

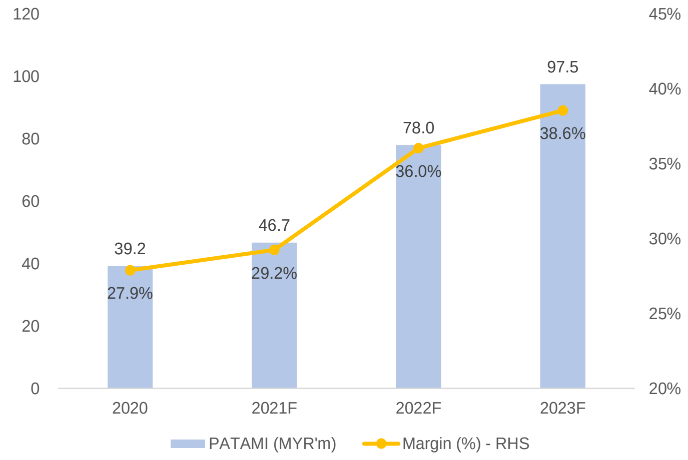
RHB vs consensus: conservative on FY21F but more bullish on FY22-23F. Our FY21F earnings forecasts are 13% below the consensus estimate, due to our more conservative view on revenue trajectory, especially the commercial segment, from the longer-than-expected lockdown. We believe consensus has yet to factor in the adverse impact.

That said, our FY22-23F earnings are 7% and 11% above consensus, partly due to the low base effect in FY21F (mostly from the commercial segment), and partly due to our more bullish view of its key accounts segment. Our bullish view is premised on two main reasons: i) Digital banks, and ii) digitalisation by existing financial institutions.

Contributions from digital banks will only begin in 2H22 and become more apparent in 2023, in our view. Bank Negara Malaysia (BNM) is expected to announce the five digital banking license winners in 1Q22 and, given the time needed to set up the operations, we expect the five digital banks to be business-ready by the latter part of 1H22. Early adoption will be slower, but we expect it to take off more meaningfully in 2023 as the digital banks expand.

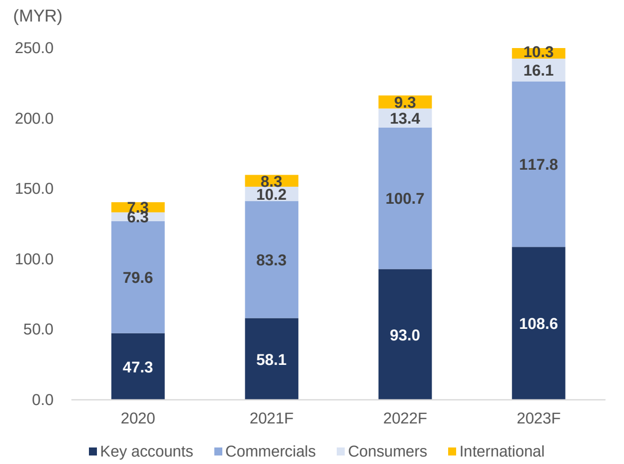
In the meantime, we are seeing existing financial institutions accelerate their own digitalisation initiatives, in order to future-proof their business model, lest newcomers erode their business moats. This competition between the incumbents and newcomers means technology spend will continue to be the top investment priority, thereby benefiting technology providers such as CTOS.

Figure 5: Earnings projection and net margin trends



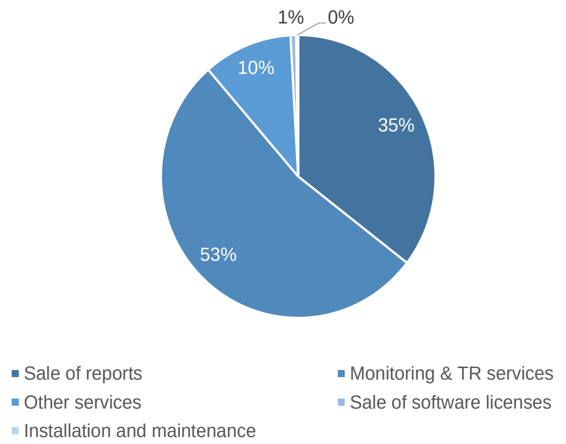
Source: Company data, RHB

Figure 6: Revenue projection by segment



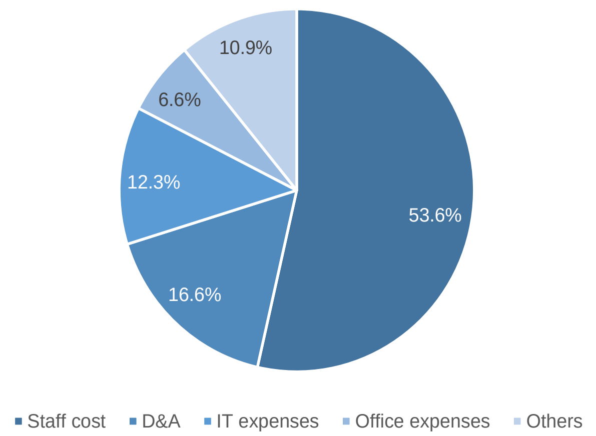
Source: Company data, RHB

Figure 7: Revenue breakdown by service type (2020)



Source: Company data, RHB

Figure 8: Composition of administrative expenses (2020)



Source: Company data, RHB

Deep dive – revenue analysis. Given the long and growing list of products and the lack of relevant disclosures, we view analysing CTOS' revenue by product as impractical. Instead, we analyse its revenue based on customer segment, namely key accounts, commercial, and consumer. According to management, c.80% of revenue is recurring (c.75% of key accounts and c.80-90% of commercial and consumer).

We project CTOS to register 22% 2020-2023F CAGR in revenue, driven by growth in all four segments:

i. Key accounts: Growth largely from higher per-account revenue due to the wider adoption and rollout of new products (eg eKYC). Account numbers are expected to be flat;

ii. Commercial: Growth in and commercial base;

iii. Consumer: Solely driven by a higher consumer base. Per-consumer revenue is expected to decline first (promotional activities to boost consumer base) and remain steady.

iv. International: Growth mainly from Basis' contributions.

Figure 9: Revenue breakdown

(MYRm unless otherwise stated)	2019	2020	2021F	2022F	2023F	Comments
Key Accounts	49.32	47.34	58.05	92.97	108.64	• FY21F-23F growth driven by higher ARPU; • Assume no growth in number of key accounts; • FY22F numbers include CCRIS fee resumption.
YoY chg (%)	*19%*	*-4%*	*23%*	*60%*	*17%*	
Commercial	74.45	79.60	83.27	100.67	117.79	• FY21F-23F growth driven by growth in the number of commercial; • Expect FY21F to be affected by prolonged lockdown but CTOS to make up lost progress in FY22F; • FY22F numbers include CCRIS fee resumption.
YoY chg (%)	*16%*	*7%*	*5%*	*21%*	*17%*	
Direct-to-consumer	5.37	6.29	10.18	13.44	16.13	• FY21-23F growth driven by growth in number of direct-to-consumer;
YoY chg (%)	*16%*	*17%*	*62%*	*32%*	*20%*	
International	0.00	7.27	8.34	9.34	10.28	• FY22-23F contribution solely from Basis
YoY chg (%)	*n.m.*	*n.m.*	*15%*	*12%*	*10%*	
Total revenue	**129.14**	**140.50**	**159.84**	**216.43**	**252.84**	
YoY chg (%)	*17%*	*9%*	*14%*	*35%*	*17%*	

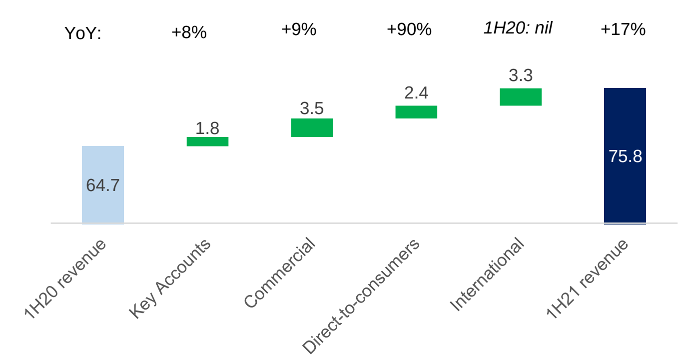
Source: RHB, Company data

2Q21 & 1H21 review: Undeniable strengths despite "messy" one-offs

2Q21 results: No signs of slowing down yet. CTOS reported an impressive 2Q21 PATAMI of MYR12m (+60% YoY) despite some one-off expenses. Normalised PATAMI (ex-one-offs) was even more impressive, at MYR15m (+65% YoY) with the strength driven entirely by its resilient topline growth and healthy operating leverage.

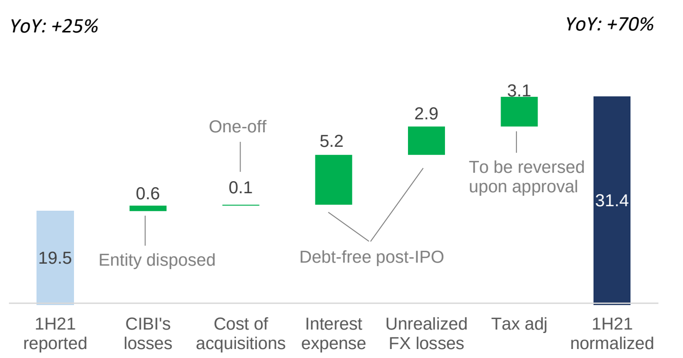
1H21 normalised PATAMI: The new earnings base going forward. All the one-off expenses should not recur in 2H21 as CTOS will dispose of CIBI and pay off debts post-listing, with the exception of tax adjustments – which will only be reversed upon obtaining the 5-year extension of preferential tax treatment.

Figure 10: Growth across segments despite CCRIS waiver



Source: Company data, RHB

Figure 11: Normalised PATAMI – the new earnings base



Source: Company data, RHB

Figure 12: CTOS' 2Q21 & 1H21 results summary

FYE Dec (MYRm)	2Q20	2Q21	YoY (%)	1H20	1H21	YoY (%)
Revenue	30.7	37.8	*23*	64.7	75.8	*17*
Cost of sales	(4.3)	(4.8)	*13*	(9.7)	(9.3)	*(4)*
Gross profit	**26.4**	**33.0**	*25*	**55.0**	**66.5**	*21*
Other income/(expenses)	(0.0)	(0.1)		(0.0)	(0.2)	
Selling & marketing expenses	(7.0)	(7.9)	*13*	(16.1)	(15.0)	*(7)*
Admin expenses	(9.1)	(8.5)	*(7)*	(17.8)	(20.0)	*13*
EBITDA	**10.3**	**16.5**	***61***	**21.1**	**31.3**	***48***
Depreciation & amortization	(1.7)	(2.2)		(3.3)	(4.6)	
Interest income	0.1	0.0		0.2	0.1	
Operating profit/EBIT	**8.7**	**14.3**	***65***	**18.0**	**26.8**	***49***
Finance cost	(0.9)	(1.6)		(1.6)	(5.2)	
Share of associates' profits	0.3	1.8		0.5	3.4	
Profit before tax	**8.1**	**14.5**	***78***	**16.9**	**25.0**	***48***
Tax expenses	(0.6)	(2.5)		(1.3)	(4.9)	
ETR (%)	*7.7*	*17.0*		*7.4*	*19.7*	
Profit after tax	**7.5**	**12.0**	***60***	**15.6**	**20.1**	***29***
Losses from discontinued operations	0.0	(0.4)		0.0	(1.1)	
Profit (continuing operations)	**7.5**	**11.7**		**15.6**	**19.0**	
Non-controlling interest	0.0	0.2		0.0	0.6	
PATAMI	**7.5**	**11.8**	***58***	**15.6**	**19.5**	***25***
PATAMI (continuing operations)	**7.5**	**12.0**	***60***	**15.6**	**20.1**	***29***
Normalised PATAMI	**9.1**	**15.0**	***65***	**18.5**	**31.4**	***70***
Profit margins						
Gross profit margin	86.1	87.3		85.0	87.8	
EBITDA margin	33.5	43.6		32.6	41.3	
EBIT margin	28.3	37.9		27.7	35.4	
PBT margin	26.5	38.3		26.1	33.0	
Net margin	24.5	31.8		24.1	26.5	
Normalised net margin (adj CCRIS)	29.7	37.1		28.6	38.3	

Comments

- CCRIS waiver: MYR2.6m for 2Q21 and MYR6.2m for 1H21.
- Adj growth: +32% for 2Q21 and +27% for 1H21.

Source: Company data, RHB

Investment Thesis

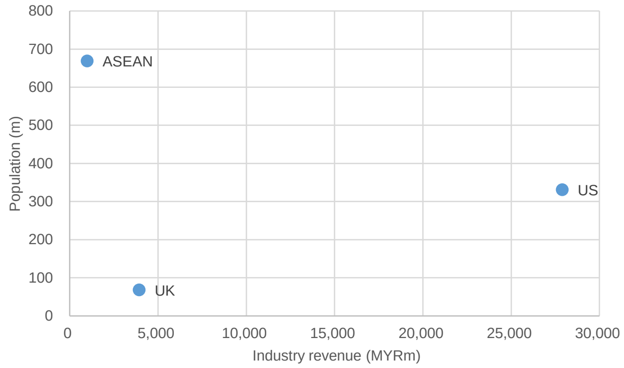
Underpenetrated market with a long runway for catch-up

Extracting more from the existing markets… The size of the credit reporting industry in ASEAN is still a fraction that of DM (eg the US and UK), despite the much larger population. Not only is the industry smaller, the penetration rate (measured by credit reporting revenue per capita) is also significantly lagging behind that of DM. This could be due to, *inter alia*, the late establishment of credit reporting agencies (eg Myanmar just established its first credit reporting agency in 2020), narrower product range (market still at a nascent stage) and the relatively large unbanked population in the region.

This, in our view, presents a huge opportunity for regional credit reporting agencies – premised on a large and growing demographic, and the extremely low coverage and penetration rate that will drive the growth in customer numbers and per-customer revenue.

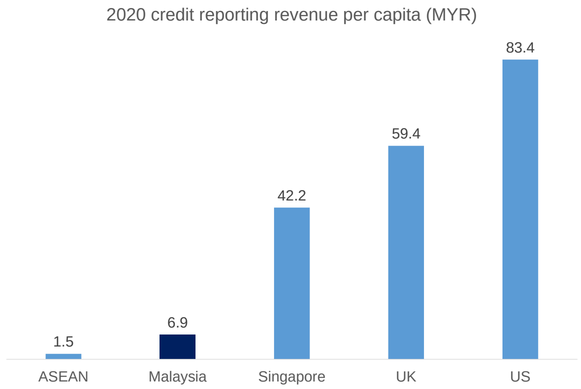
In Malaysia, although over 70% of the population is covered by credit reporting agencies, the penetration rate is still significantly lower than in Singapore (even more so when compared to DM). We believe this could be due to low financial literacy and a rather narrow use of credit data.

Figure 13: The ASEAN market is severely underpenetrated but presents great demographic opportunities



Source: IDC

Figure 14: Malaysia's credit reporting revenue per capita has remained low…

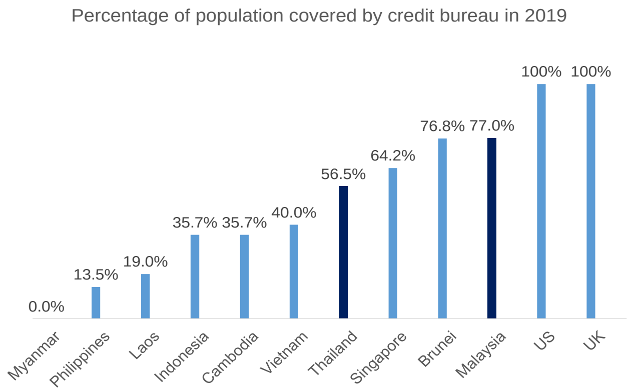


Source: IDC

This situation is expected to improve. Malaysia's credit reporting industry is projected to resume growing by double digits in 2021F-2025F, after a pandemic-led slowdown in 2020. According to IDC Analysis – the industry is expected to grow at a 13.2% CAGR in the next five years, driven by: i) Increasing financial literacy of the population; ii) a growing small and medium enterprises (SME) sector; (iii) increasing demand for credit information by businesses and consumers; and (iv) the introduction of digital banking via traditional financial institutions, or new entrants of fintech companies hailing from a variety of industries.

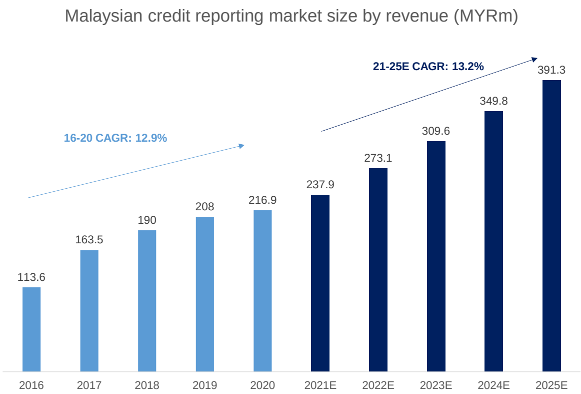
CTOS is in the best position to reap the benefits, in our view, given its strong and diversified customer base (network effect), innovative product offerings (to capture more "new" demand), and strong brand recognition.

Figure 15: …despite decent coverage by the credit reporting agencies



Source: IDC

Figure 16: Industry growth is projected to resume in 2021



Source: IDC

…with new verticals as medium-term growth drivers. In addition to the expected improvement in the "core" credit reporting segment, CTOS has identified new verticals to expand into ie insurance, automotive and real estate. Based on IDC Analysis' forecasts, these three sectors will see over 40% 2021-2025F CAGR.

In fact, CTOS has already rolled out its maiden real estate-related product, namely CTOS Tenant Screening where landlords can check their prospective tenant's background and payment history. Separately, CTOS has several digital solutions in the pipeline related to motor vehicle checks and collections, which it aims to launch in the next two years.

While we do not foresee these new verticals becoming major topline contributors in the next 2-3 years, they still present great growth potential for CTOS. While these sectors represent huge untapped markets that could offer great returns, we see the company's innovation and massive network as strong competitive edges over its competitors as well.

Figure 17: TAM* for credit reporting industry solutions by industry (MYRm)

Sector	2016	2017	2018	2019	2020	2021E	2022E	2023E	2024E	2025E	16-20 CAGR	21-25E CAGR	16-25E CAGR
Financial services	124.1	151.0	176.4	199.6	203.4	310.1	403.2	491.9	592.3	682.3	13.1%	20.8%	21.8%
Direct to consumers	14.4	17.5	20.3	22.8	23.5	39.8	56.5	74.4	96.3	122.6	12.9%	26.8%	32.4%
Retail	3.3	3.9	4.6	5.1	5.2	12.1	21.5	33.8	42.1	50.1	12.0%	35.1%	42.6%
Healthcare	1.8	2.0	2.3	2.6	2.7	12.1	17.8	26.5	40.4	60.0	10.9%	47.9%	49.2%
Insurance	4.8	6.0	7.1	7.8	8.0	12.4	19.3	27.2	38.1	52.9	13.7%	30.5%	43.7%
Telco & utilities	4.9	6.0	7.1	7.9	8.1	13.1	18.5	26.1	34.2	44.6	13.3%	27.8%	35.8%
Automotive	1.8	2.3	2.4	2.8	3.0	6.3	11.9	19.4	30.9	49.1	13.9%	44.7%	67.3%
Media technology	1.7	2.1	2.5	2.7	2.8	6.3	10.9	19.0	28.8	43.7	13.5%	43.7%	62.5%
Real estate	1.9	2.3	3.3	5.1	5.4	6.4	7.6	11.1	17.6	26.9	29.6%	34.2%	43.2%
Software & professional services	1.8	2.2	2.5	2.7	2.9	4.8	6.2	8.8	9.5	9.3	12.9%	21.6%	21.2%
Total	**160.5**	**195.3**	**228.6**	**259.2**	**264.9**	**423.4**	**573.4**	**738.3**	**930.3**	**1,141.5**	**13.3%**	**24.4%**	**28.2%**

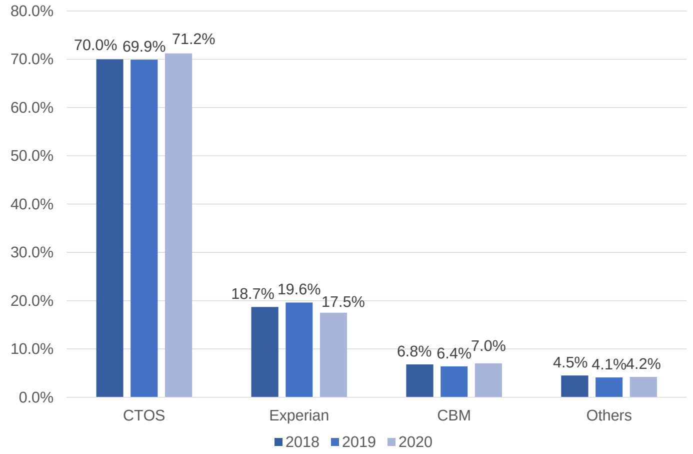
**Note: i) TAM defined as revenue opportunity available. ii)CTOS' target new verticals are highlighted in blue.*
Source: IDC, Company data

Unchallenged market leaders, industry has high entry barriers

Market leader in Malaysia and Thailand. CTOS' market share has been fairly stable during 2018-2020, where it commanded the lion's share (at c.70%) of the market in Malaysia. Separately, its associate BOL is also a market leader in Thailand, with a c.59% market share. We expect CTOS to maintain its Malaysian market leadership, premised on innovative product rollouts, depth of databases (network effect), strong relationships with existing customers, and brand recognition.

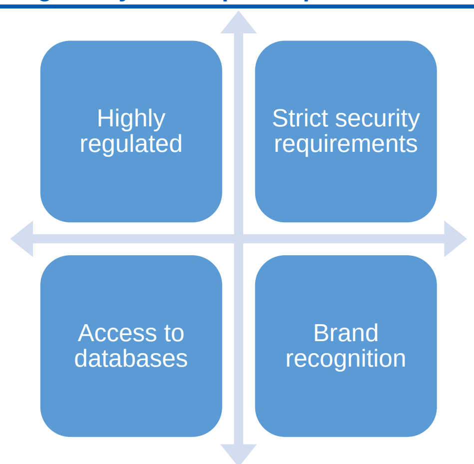
Harder than you think. There are currently seven licensed credit reporting agencies in Malaysia, and only one new entrant (CRIF OMESTI SB) in the last 10 years. Not only is the industry highly regulated (mostly by the Credit Reporting Agencies Act), incumbents also have uneven access to databases (eg only three credit reporting agencies have access to CCRIS) and brand recognition plays a major role in gaining users' trust. These create a high barrier to entry for any potential new entrant – which should help fend off new players from entering the field.

Figure 18: CTOS has the biggest share of the market



Source: Company data

Figure 19: High entry barrier put off potential new entrants



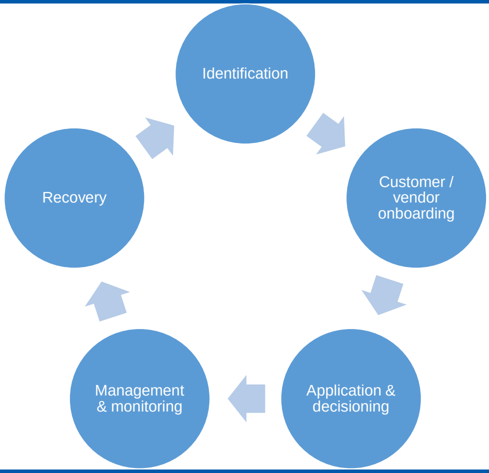
Source: Company data

Innovative product offerings with a large network effect

One-stop digital solutions provider. CTOS' full-fledged credit management solutions have created an ecosystem to support its customers throughout their lifecycles. We believe these unique end-to-end product offerings are one of the critical competitive advantages it has over competitors, evidenced by its market-topping number of products, especially the value-added offerings (see Figure 35 for a detailed comparison and Figure 36 for a list of key digital solutions).

For example, lending activities by some key accounts customers (eg banks, non-bank lenders) were greatly reduced when the Malaysian Government implemented the first MCO back in Mar 2020. This resulted in less demand for credit checks, as lenders turned cautious, especially regarding new borrowers. However, this was offset by higher demand for CTOS' Portfolio Analytics and Insights solution, as lenders sought to analyse the financial positions of their borrowers for both possible credit risks and cross-selling opportunities.

Figure 20: CTOS offers unique lifecycle product offerings…



Source: Company data

Figure 21: …with the widest areas of services covered

Areas of services covered	CTOS	CBM	Experian	CRIF	D&B	FIS
Core products	8	7	8	4	4	3
Value-added products	10	2	8	3	2	0

Source: IDC, Company data

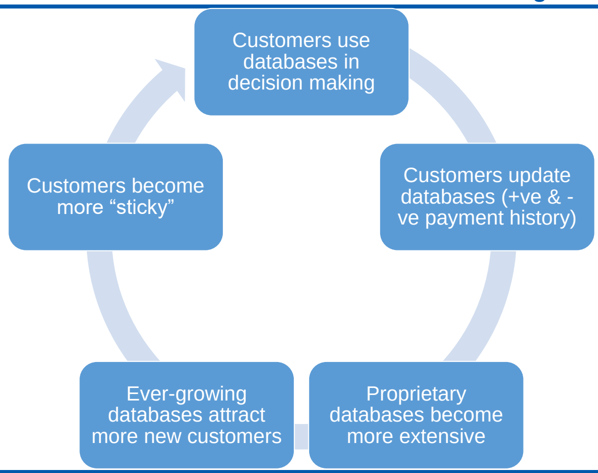
Success breeds success. Another key factor that sets CTOS apart from its competitors is the "network effect" its proprietary databases has created. According IDC Analysis, CTOS has built one of the largest electronic trade reference (eTR) databases in Malaysia – its databases contain profiles of 15m consumers and 8m businesses. Both the Commercial and Key Accounts customers can upload their trade reference records to the eTR database, which in turn will be used by other customers. This, in our view, creates a positive feedback which would result in CTOS' digital solutions becoming more "sticky" to its customers. This also gives CTOS greater flexibility in future product development that leverages on this positive feedback.

Figure 22: CTOS' proprietary databases

eTR	eTR Plus	CED
• Contains non-bank negative payment histories on consumers & businesses; • Encourage timely payments to avoid a negative record; and • Encourage positive credit decisions from other lenders.	• Contains payment history information on non-bank transactions; • Includes both on-time and missed payments; and • More balanced representation of a consumer's creditworthiness & ability to borrow responsibly.	• Contains litigation and bankruptcy proceedings information shared by CTOS' subscribers; • Published on the credit reports & serve as an additional basis to assess creditworthiness.

Source: Company data

Figure 23: Positive feedback creates an even stronger edge



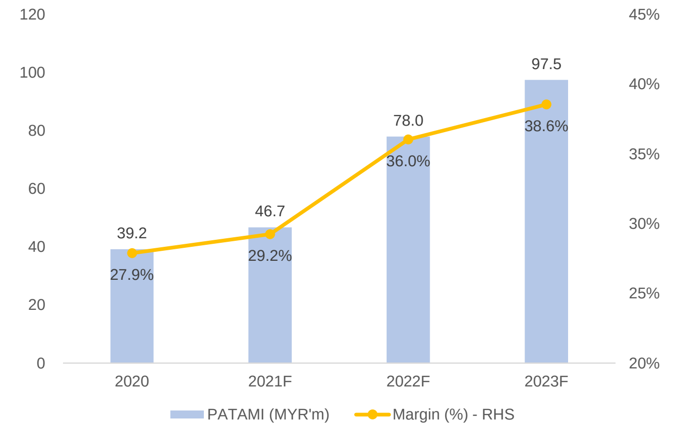
Source: IDC, Company data

Strong earnings CAGR and solid financials

Entering a new era of growth. We expect CTOS to register a 35% earnings CAGR over 2020-2023E (vs 2018-2020's +15%). The accelerated earnings growth will be mainly driven by:

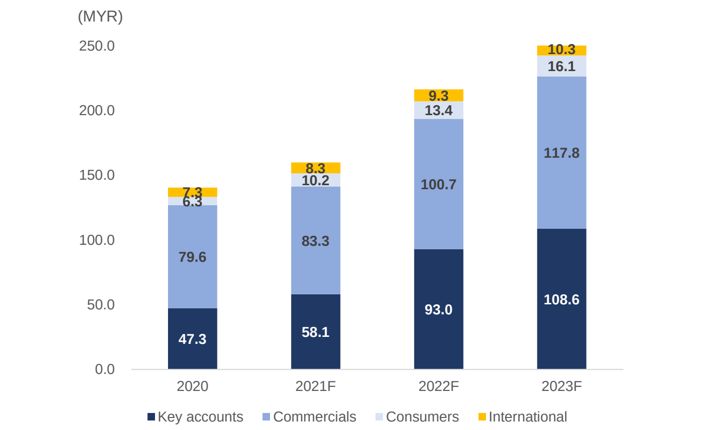
i. Higher revenue per Key Accounts customer on new products;
ii. Robust growth in commercial and consumer accounts; and
iii. Contributions from its associates and subsidiary.

Figure 24: Earnings growth and profit margin trend



Source: RHB, Company data

Figure 25: Revenue projection by segments



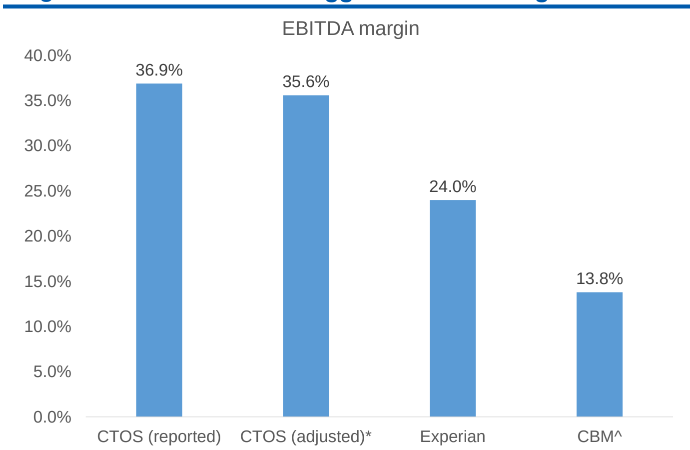
Source: RHB, Company data

We believe CTOS is entering into a new phase of growth. Since the emergence of Inodes (backed by the Creador Group, a Malaysian mid-market private equity fund group) as a major shareholder in 2014, CTOS has grown its Commercial segment's base, increased its share of wallet in Key Accounts customers, penetrated new verticals and new capabilities, and expanded its presence into new markets including Thailand.

In addition, the new management team (Group CEO Dennis Martin joined CTOS in 2017) has also breathed new life into the company by rolling out new products. Over the past three years, it has launched CTOS eKYC, CTOS SME Score, CTOS IDGuard and CAD, amongst others, and more recently in 2021, CTOS Tenant Screening Report.

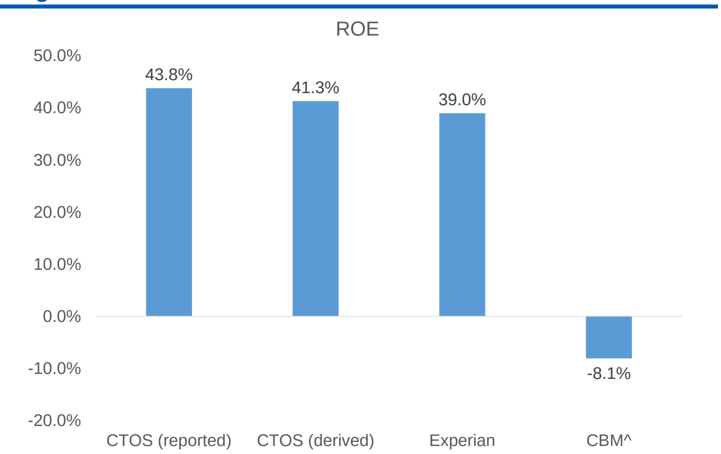
Size matters. CTOS' financial metrics topped that of its competitors, by registering a meaningfully higher EBITDA margin and ROE**.** The superior profitability is likely due to the company's stronger bargaining power, buttressed by its lifecycle product offerings and large proprietary databases. These edges likely allow CTOS to better price its products through product differentiation – based on channel checking, Experian Information Services (Malaysia)'s (Experian) GPM of c.60% is still lower than CTOS' >80%. CTOS also could achieve further operational leverage more easily than peers, in our view, given its large revenue base and cost structure (c.2/3 of fixed costs).

Figure 26: CTOS has the biggest EBITDA margins…



*Note: * We exclude profits from associates from the EBITDA calculation*
^ Based on the latest available audited financial statements of CBM FY19.
Source: IDC, Company data

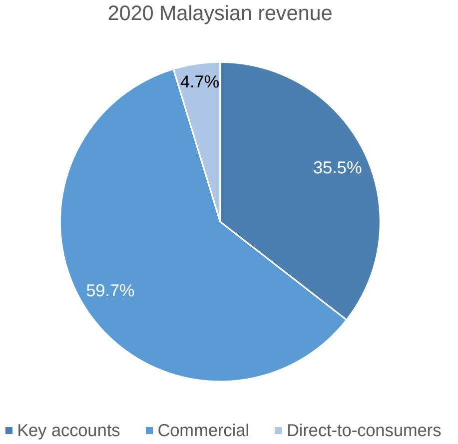
Figure 27: …and ROE



Note: ^ Based on the latest available audited financial statements of CBM FY19.
Source: IDC, Company data

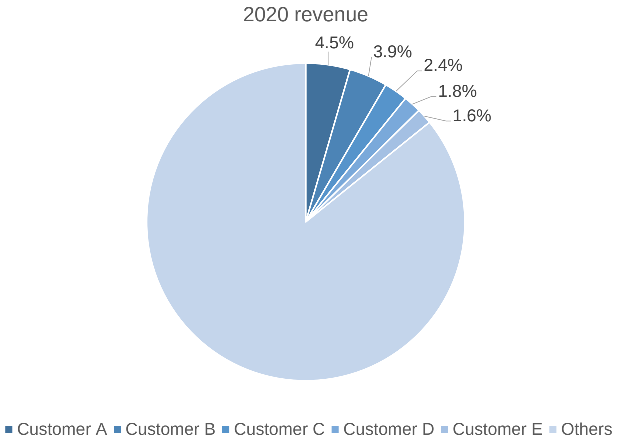
Diversified customer base. CTOS derives much of its revenue from the Key Accounts and Commercial segments, which collectively contributed >95% of its 2020 revenue in Malaysia. CTOS currently serves approximately 430 Key Accounts customers, 17,000 Commercial customers, and 1.3m consumer customers in Malaysia. There is also little concern on concentration risk, in our view. Its top five customers only contributed 14% of 2020 Malaysian revenue, with no single customer having more than a 5% revenue share. That said, all of the top five customers are from the Key Accounts segment.

Figure 28: Diversified customer base…



Source: Company data

Figure 29: …with low concentration risk



Source: Company data

Regional expansion

Following the distribution exercise of CIBI, a credit bureau in the Philippines, CTOS will continue to have presence in Malaysia and Thailand (via its 22.65% stake in BOL). Given the vast opportunities within the ASEAN region, we believe CTOS could embark on a regional expansion to enlarge its footprint in ASEAN. According to the prospectus, the company has earmarked a portion of the IPO proceeds to pursue acquisition and investment opportunities within the next 36 months. It has also identified a target business in the Asia-Pacific, although such acquisition plans are still in a preliminary discussion phase.

Key Risks

Changes in the regulatory environment. CTOS is subject to various governmental regulations, laws and orders – including, but not limited to, the Credit Reporting Agencies (CRA) Act in Malaysia, Personal Data Protection Act (PDPA) and Competition Act in both Malaysia and Thailand. Annual renewal of the CRA licence is required under the CRA Act. These laws and regulations may change from time to time, and a failure to comply with them could result in criminal penalties or other liabilities.

Access to external data sources. CTOS' reputation, business and financials could be adversely impacted if access to its external data sources is reduced, or if such data becomes more expensive to obtain. On the other hand, the demand for some of its products may be reduced, if the public and commercial sources of free or relatively inexpensive consumer information become more readily available over time.

Quality and integrity of databases. The integrity and reliability of CTOS' information databases are among the critical key success factors. Any staleness or inaccuracy of information in the databases may result in enforcement from regulators. Furthermore, if the quality of the databases decreases or the integrity is compromised, CTOS may face customer or third-party claims, and customers or the general public may lose confidence in its digital solutions.

Pioneer status and tax incentives. CTOS Data Systems, a subsidiary, has been awarded pioneer status incentives where it is entitled to a tax exemption from 9 Nov 2016 to 8 Nov 2021. However, pursuant to the Grandfathering and Transitional Guidelines which became effective on 1 January 2019, the tax relief period will be until 30 Jun 2021. CTOS Data Systems plans to seek the approval from Malaysia Digital Economy Corporation (MDEC) or the relevant authorities to continue enjoying these tax incentives for the transitional period from 1 Jul 2021 to 8 Nov 2021, as well as to renew its pioneer status for an extended relief period of five years until Nov 2026. While management believes the pioneer status will be renewed, any non-renewal would result in CTOS Data Systems being subject to the prevailing 24% statutory tax rate, which would dampen profitability.

Unfavourable global economic conditions and an outbreak of disease, pandemic or epidemic. During the economic slowdown, some customers may be less able or willing to pay for the digital solutions, and CTOS may have difficulty collecting payments from some customers. The COVID-19 pandemic has most directly impacted its Commercial customers, in particular the SME customers. During the MCO, CTOS granted short-term payment deferrals for subscriptions and instalment payment plans to some of the CTOS Credit Manager customers, whose businesses were significantly impacted by the COVID-19 pandemic and the MCO.

Adverse developments in business acquisitions and investments. Any deterioration in relationships with its associates could negatively impact CTOS' business and financial conditions. In addition, some acquisitions may not be completed on favourable terms – and the acquired digital solutions, assets, data or businesses may not be successfully integrated into CTOS operations. Last, the inability to make strategic acquisitions could limit the company's ability to generate future revenue growth.

Consolidation between customers and termination or discontinuation of services. Consolidation between CTOS' customers or acquisition by other entities that are not its customers may result in lower use of its services, and a smaller pool of customers for business expansion. Termination of business relationships by its customers could adversely impact CTOS' financial performance.

Company Overview

Historical background

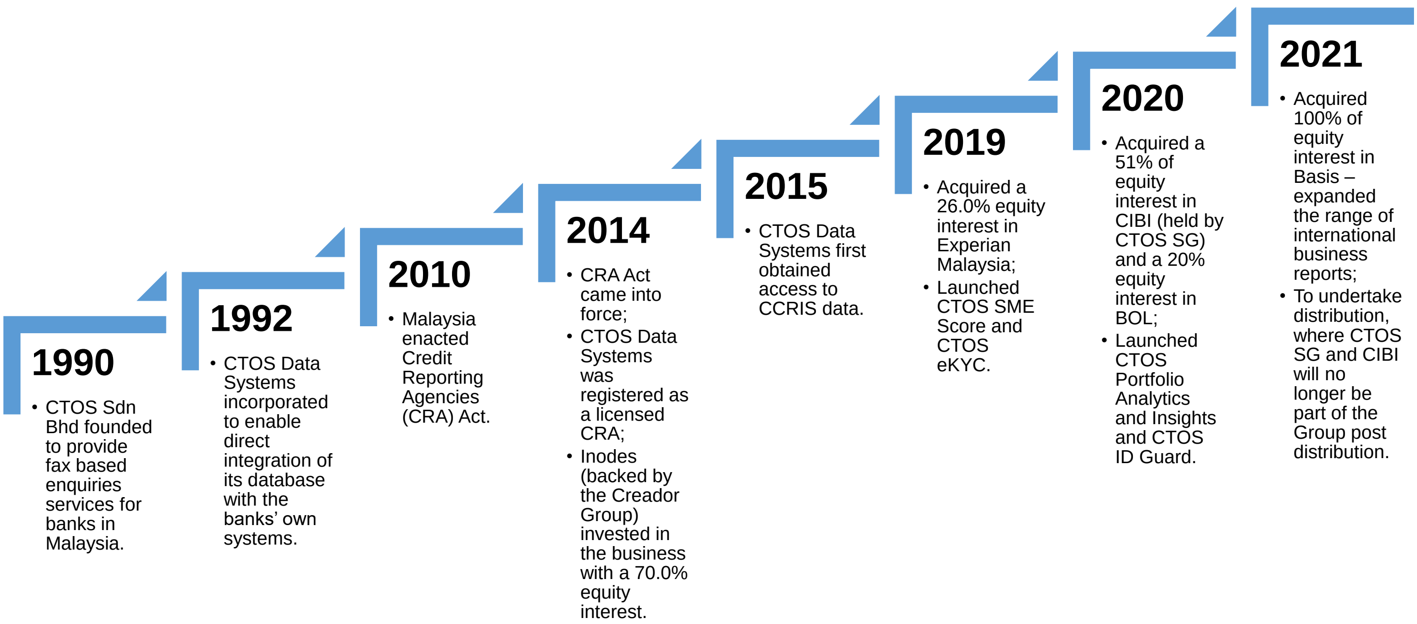
The company was incorporated in Malaysia on 17 Jul 2014 as a private limited company under the name of CTOS Holdings. It then changed its name to CTOS Digital on 6 Oct 2020. On 26 Mar 2021, it was converted into a public company.

The history of the business can be traced back to 1990 when CTOS Sdn Bhd was incorporated to provide fax-based enquiries services for banks in Malaysia. CTOS Data Systems was incorporated in 1992, to directly integrate its database with the systems of some of the financial institutions which had subscribed to its credit reporting services.

In Aug 2014, Inodes acquired a 70.0% equity interest in the company. Following the investment by Inodes, the company acquired the entire equity interest of CTOS Data Systems, CTOS Business and Automated Mail Responder from the founders. Inodes continued to increase its equity interest in CTOS over the next four years, to 80.0%.

CTOS Data Systems obtained its first CRA Certificate on 15 Apr 2014. CTOS Data Systems obtained its MSC Malaysia Status from MDEC on 9 Nov 2016 and the pioneer status from the Ministry of International Trade and Industry (MITI) on 8 Dec 2017. In Mar 2016, it also acquired the entire equity interest of Intellidata Solutions, and the entire equity interest of two investment holding companies – namely Enfo and CTOS Insights in Jul 2019, which resulted in the 26.0% equity interest in Experian.

Figure 30: CTOS' milestones



Source: Company data

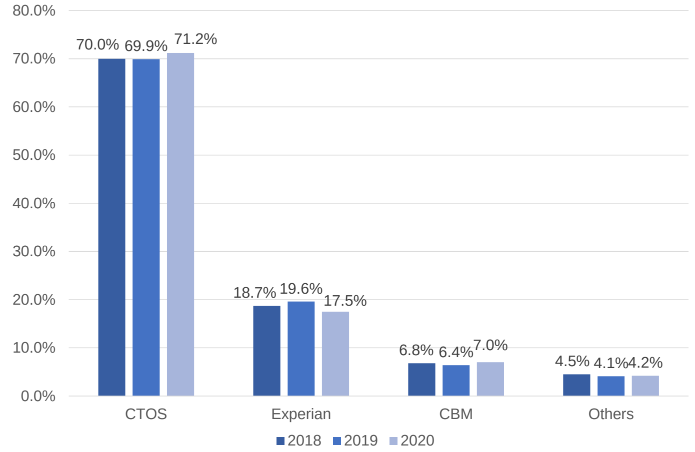
Business Overview

Competitive strengths

ASEAN presence, leading credit reporting agency in Malaysia. CTOS is the regional market leader for credit reporting in the ASEAN region, and has a presence in Malaysia and Thailand. It commanded an estimated market share of 71.2% in 2020, making it the leading credit reporting agency in Malaysia. Its Malaysian associate, Experian, is the second largest credit reporting agency in Malaysia, with an estimated market share in terms of revenue of 17.5%. BOL (Thai associate), is the largest company information bureau in Thailand, with an estimated market share of 59.0%.

Diversified customer segments. The company provides credit information and analytics digital solutions on companies, businesses and consumers for use by banks and businesses at each stage of the customer lifecycle, and provides credit information and analysis to consumers. The three customer categories are Key Accounts, Commercial and Direct-to-Consumer. CTOS has c.430 Key Accounts (eg Malaysian banks and corporates), and c.17,000 Commercial customers, primarily SMEs. It has c.1.3m users registered for a CTOS ID account.

Figure 31: CTOS' market leadership in Malaysia



Source: Company data

Figure 32: CTOS' customer segments

Key Accounts	Commercial	Direct-to-Consumer
• c.430 customers • Eg banks, corporates • c.35.5% of 2020 Malaysian revenue	• c.17,000 customers • Mostly SMEs (eg financial services, telco, wholesale & retail etc) • c.59.7% of 2020 Malaysian revenue	• c.1.3m registered users • Helps consumer to manage credit health • c.4.7% of 2020 Malaysian revenue

Source: Company data

Large credit database with access to key financial databases. CTOS' digital solutions are based on its extensive databases of consumer and business information. Its databases contain profiles of about 15m consumers and 8m companies and businesses. Its proprietary information databases include CTOS Data Systems' eTR, eTR Plus and CED databases. Its extensive proprietary databases enabled CTOS to provide customers with end-to-end digital solutions.

Figure 33: CTOS' sources of data

Government	Agency	Media	International	Self maintained databases
• Department of Insolvency; • Federal Government Gazettes; • National Higher Education Fund.	• Central Bank Of Malaysia (CCRIS); • Angkasa Govt (salary deductions); • Companies Commission of Malaysia.	• Newspapers & media publications.	• Basis' network of global data partners.	• CTOS Legal Enhanced Database (CED); • CTOS Electronic Trade Reference (eTR).

Source: Company data

Figure 34: CTOS' proprietary databases

eTR	eTR Plus	CED
• Contains non-bank negative payment histories on consumers & businesses; • Encourage timely payments to avoid a negative record; and • Encourage positive credit decisions from other lenders.	• Contains payment history information on non-bank transactions; • Includes both on-time and missed payments; and • More balanced representation of a consumer's creditworthiness & ability to borrow responsibly.	• Contains litigation and bankruptcy proceedings information shared by CTOS' subscribers; • Published on the credit reports & serve as an additional basis to assess creditworthiness.

Source: Company data

Strategic partnerships. CTOS has forged several strategic partnerships. For instance, CTOS Scores was developed by collaborating with FICO, one of the leading global consumer credit score providers. CTOS also offers CTOS IDGuard fraud bureau, which integrates fraud and compliance management technology from GBG, a UK-listed global technology provider of identity verification, location intelligence, and fraud and compliance solutions.

Fully digital platform for end-to-end credit management. CTOS has developed a full-fledged ecosystem of credit management solutions. This ecosystem provides digital solutions to support our customers' businesses at every stage of the customer lifecycle: From new customer identification to customer onboarding and decision-making to customer management and monitoring to recovery.

Figure 35: CTOS' digital solutions throughout the lifecycle

Lifecycle stage	Identification	Customer / vendor onboarding	Application & decisioning	Management & monitoring	Recovery
Description	Customer identifies a prospective business or new business relationship or transaction	Initial step of determining whether a prospective customer or vendor is suitable based on their past business and financial dealings	Business decides whether or not to extend credit after a prospective customer is on-boarded	Effective portfolio management, analysis and monitoring to better identify new sources of revenue and potential areas of credit risk	A business must manage its relationship with a customer that can no longer meet its credit obligations
Malaysia digital solutions	CTOS CreditFinder, CTOS Tenant Screening, Report, Company Search, Business Listings, Customised Bulk Data Sales	CAD, CTOS Credit Manager, CTOS IDGuard, CTOS eKYC, CTOS Tenant Screening Report	CAD, CTOS Credit Manager, CTOS Scores, CTOS Data Systems Reports, CTOS Basis Reports and External Reports, CTOS Basis, eTR, eTR Plus	CTOS Credit Manager, CTOS IDGuard, CTOS Scores, Comprehensive Portfolio, Review, CTOS Portfolio Analytics and Insights, CTOS SecureID	CTOS Credit Manager, eTR, eTR Plus

Source: Company

According to the IDC report, CTOS also offers a much wider product range than its competitors, which supports various critical functions of its customers' businesses.

Figure 36: Product offering range – a comparison

		CTOS	CBM	Experian	CRIF	D&B	FIS
Core Products	Access to CCRIS	√	√	√			
	Credit Scoring	√	√	√			
	Credit Rating	√	√	√	√	√	
	Consumer Credit report	√	√	√			
	Commercial Credit report	√	√	√	√	√	√
	- Business Information Report	√	√	√	√	√	√
	- Credit Monitoring Service	√	√	√			√
	- International Reports	√		√	√	√	
Value-added Services	Business Analytics	√	√	√	√	√	
	Fraud Prevention	√					
	Fraud Monitoring	√		√			
	Scoring/Rating validation Services	√	√	√			
	Credit Decisioning & Analytics	√		√	√		
	Digital Onboarding/eKYC	√		√	√		
	Credit Risk Management	√		√		√	
	Credit Comparison Site	√		√			
	Identify Theft Protection	√		√			
	Tenant Screening	√					

Source: IDC, Company data

Figure 37: Details of CTOS' key digital solutions

Key digital solutions	CTOS Scores	CTOS Credit Manager	CTOS Basis (formerly BASISNET)	Comprehensive Portfolio Review
Application	3-digit numbers that represent an analytical assessment of the credit health of a consumer or business via CTOS Consumer Score and CTOS SME Score	SaaS online credit risk management platform for customers to search, store, monitor and manage their own customers' and related business parties' credit and other information	Access Basis international credit and local comprehensive reports, litigation check, credit monitoring services and business listings	Perform comprehensive reviews of CTOS' customers' portfolios of end-customer, data to provide them with more information about their own customer bases
Customer Type	Key Accounts, Commercial customers & consumers	Commercial customers	Commercial customers	Key Accounts and Commercial customers
Revenue Model	CTOS Consumer Score and CTOS SME Score are sold both as part of the CTOS reports and individually	• Subscription fee, paid monthly or annually • Transactional basis for digital solutions purchased through CTOS Credit Manager	Subscription fee on an annual basis, or prepaid packages	A one-time fee for each review, which varies based on the nature of the review
Key Digital Solutions	**Portfolio Analytics & Insights**	**CAD**	**CTOS eKYC**	**Reports**
Application	Customised analytics and insights to customers based on a combination of a customer's portfolio data and CTOS' own comprehensive databases	SaaS solution that automates a customer's credit assessment process using analytics and insights from CTOS' proprietary information databases	Digital onboarding solution that provides banks and businesses with digital identity verification via a 4-layer authentication process, which is compliant with all applicable regulatory standards	Produce reports that leverage CTOS' insights, solutions and information from our databases, and sell external reports produced by third parties
Customer Type	Key Accounts & larger SMEs in Commercial customers	Banks and corporations in both key accounts & Commercial customers	Key Accounts and Commercial customers	Malaysian and International consumers and businesses
Revenue Model	A one-time fee for each project, which varies based on the nature of the project	CAD is available as a cloud-based service or on premises application. Customers pay a transactional fee and a one-time set up fee	Either monthly subscription fees and/or transactional fees and a one-time set-up/implementation service	On a transactional basis
Key Digital Solutions	**CTOS IDGuard**	**CTOS SecureID**	**CTOS CreditFinder**	**eTR and eTR Plus**
Application	Proprietary fraud bureau, offering a data-sharing platform to detect and prevent application fraud	Consumer fraud protection and credit monitoring SaaS solution. CTOS SecureID subscribers receive real-time alerts on suspicious activity and potential information data breaches affecting their accounts	Online matching and referral platform where lenders can list their financial products such as credit cards, home loans or personal loans	• eTR database contains electronic trade references which contain non-bank negative payment behaviour information on Malaysian individuals and businesses • eTR Plus database also contains non-bank positive and negative payment behaviour information on Malaysian individuals and businesses
Customer Type	Key Accounts customers, particularly in the banking sector	Consumers	Consumers	Non-bank customers in Key Accounts and Commercial customers
Revenue Model	Subscription fee, paid annually	Subscription fee, which can be paid monthly	Monthly subscription fee and marketing fees	Monthly fee

Source: Company data

Extensive distribution network… CTOS has over 170 employees for its Key Accounts and Commercial sales team. The company has a national presence in Malaysia, with 10 offices throughout the country. After-service support platforms include a call centre that operates daily, a 24/7 IT support system, and eight service centres across Malaysia. Separately, it has also established a client relations team to focus on customer retention and cross-selling to existing customers.

…with diversified long-term client relationships. Revenue streams are highly diversified, with its largest customer accounting for less than 4.5% of FY20 revenue. About 75% of key account revenue is recurring in nature. The company's top five customers accounted for only 14.2% of revenue, suggesting low concentration risk. Each of these has had ties with CTOS for 8-19 years.

Since 2016, CTOS has grown its Key Accounts customers and retained 100% of them since 2017. This is due to its fully digital platform and end-to-end credit management solutions, which have become an integral part of some of its customers' business processes. This would make the switching to CTOS' competitors a cumbersome process – which also creates customer loyalty.

Figure 38: CTOS' key customers – contributions and length of relationships (as per FY20 data)

Customer	Years of relationship	Revenue (MYRm)	Percentage of revenue (%)	Description
Customer A	19	6.3	4.5	Customer A is involved in commercial banking and provides related financial services. Its activities are principally conducted in Malaysia.
Customer B	19	5.5	3.9	Customer B is involved in commercial banking, finance-related businesses and the provision of related services. Its activities are principally conducted in Malaysia. Customer B is listed on the Main Market of Bursa Securities.
Customer C	19	3.4	2.4	Customer C is involved in commercial banking, and its activities are principally conducted in Malaysia. Customer C is listed on the Main Market of Bursa Securities.
Customer D	18	2.5	1.8	Customer D is involved in all aspects of the banking business and the provision of related financial services. Its activities are principally conducted in Malaysia. Customer D is listed on the Main Market of Bursa Securities.
Customer E	12	2.2	1.6	Customer E is involved in the sales and lease of household appliances in Malaysia. Customer E is a subsidiary of a company incorporated under South Korean law, to engage primarily in the manufacture and sales of household appliances. It is listed on the Korea Stock Exchange.
Total Top 5		**19.9**	**14.2**	

Source: Company data

Industry Overview

ASEAN overview

Rapid growth yet still underserviced. The market size for credit reporting of the ASEAN region stood at MYR990.5m in 2020. According to IDC, the market size CAGR for ASEAN from 2021-2025E is expected to be 10.8%, which is much higher than in developed countries such as the US and the UK. The rapid growth will be driven by greater penetration and usage of credit reporting services and further expansion of other services (eg analytics, eKYC, application of automation, and Direct-to-Consumer services). This is because regional credit reporting agencies have fewer products and services available to customers, compared to developed countries.

Figure 39: Credit reporting industry market size 2016-2025E (MYRm, unless otherwise stated)

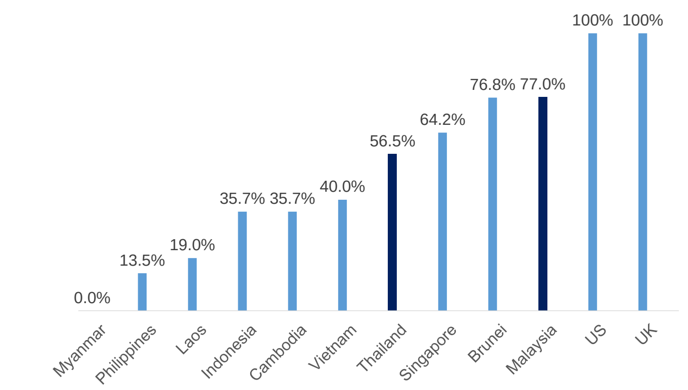
Country	2016	2017	2018	2019	2020	2021E	2022E	2023E	2024E	2025E	16-20 CAGR	21-25E CAGR	16-25E CAGR
Indonesia	114.9	148.2	183.8	213 .2	218.8	230.5	252.8	280.7	305.9	331.6	17.5%	9.5%	12.5%
Malaysia	138.5	169.5	196.9	215.6	224.7	246.6	283.1	320.9	362.6	405.6	12.9%	13.2%	12.7%
Philippines	26.3	35.0	45.8	58.3	62.3	69.9	83.5	100.0	115.5	131.9	24.0%	17.2%	19.6%
Singapore	181.3	197.9	213.7	228.3	240.5	257.1	270.9	285.3	300.4	314.0	7.3%	5.1%	6.3%
Thailand	103.8	113.9	123.6	132.9	139.1	145.6	154.6	165.1	175.3	188.2	7.6%	6.6%	6.8%
Vietnam	24.6	31.7	40.4	50.7	58.0	68.0	78.4	93.4	110.7	137.5	24.0%	19.3%	21.1%
Others	23.1	27.4	29.0	33.7	47.1	53.3	61.2	73.3	88.6	105.1	19.5%	18.5%	18.3%
ASEAN	**612.5**	**723.6**	**833.2**	**932.6**	**990.5**	**1,070.9**	**1,184.5**	**1,318.7**	**1,458.9**	**1,613.9**	**12.8%**	**10.8%**	**11.4%**
US (MYRbn)	19.9	21.4	23.6	25.8	27.9	29.6	31.9	34.4	36.9	39.6	8.8%	7.5%	7.9%
UK (MYRbn)	3.7	3.8	4.0	4.4	3.9	4.0	4.2	4.6	4.8	5.0	1.4%	5.3%	3.2%

Source: IDC, Company data

Uneven coverage across markets… The coverage in ASEAN markets remains highly uneven. While Malaysia and Brunei have more than 70% of their populations covered by credit reporting agencies, markets such as the Philippines (13.5%) and Indonesia (35.7%) still have large segments that do not have any credit record coverage. Coverage by a credit reporting agency is highly tied to access to financial services such as banking. Markets with high numbers of unbanked residents will also have low numbers of credit reporting agency records.

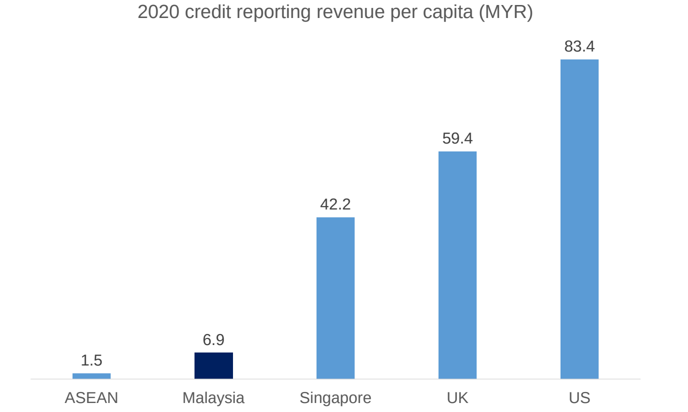
…with a long runway to play catch-up. The ASEAN region has strong potential for credit reporting revenue growth, given its extremely low penetration rate, measured by credit reporting revenue per capita of MYR1.48 in 2020. This is 56 times smaller than the US' in 2020 at MYR83.39 per capita. Even for Malaysia, which has high coverage, the penetration rate remains low at MYR6.86 per capita (12x smaller than the level recorded in the US).

Figure 40: Percentage of population covered by credit reporting agencies (2019)



Source: IDC

Figure 41: Credit reporting revenue per capita in 2020 (MYR)



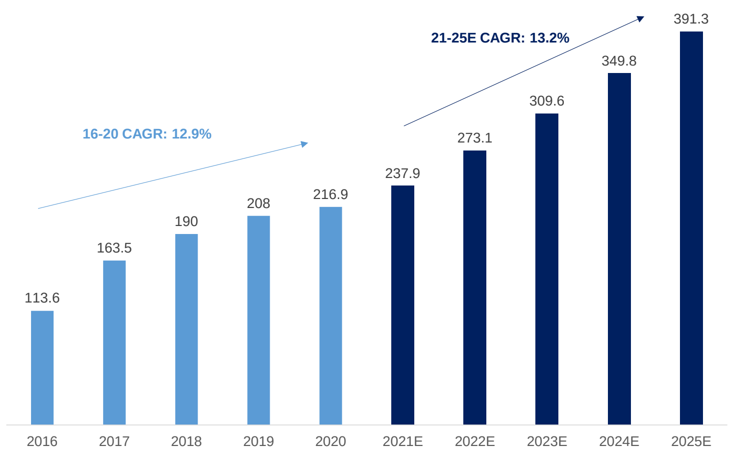
Source: IDC

Malaysia overview

Change in product demand during pandemic. Despite a pandemic-ravaged 2020, the credit reporting industry still managed to grow by 4.3% YoY. The slowdown in demand for credit checks has been offset by industry players shifting business focus to offer other services. With the implementation of the 6-month loan moratorium, banks have looked towards new technologies and vendors which can help them to reassess the quality of their loan portfolios and identify higher-risk areas.

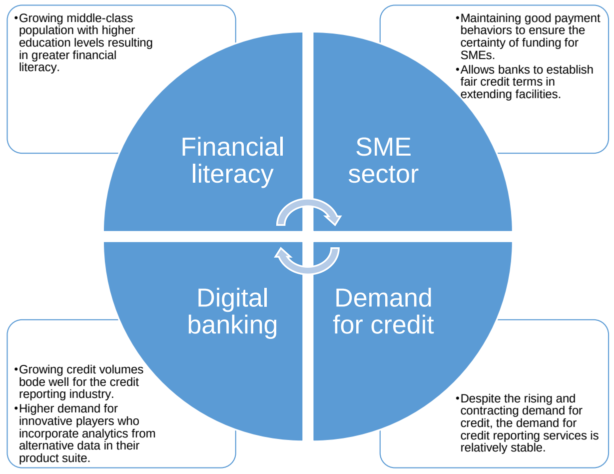
Growth to resume after a temporary setback. Malaysia's credit report market is expected to resume growth, after a slowdown in 2020 due to the COVID-19 pandemic. According IDC, the credit reporting industry is expected to expand at a CAGR of 13.2% over 2021-2025E.

Figure 42: Malaysian credit reporting market size by revenue



Source: IDC

Figure 43: Key drivers for the credit reporting industry



Source: IDC

Huge untapped total addressable market (TAM). The Malaysian credit reporting industry is still at an early stage, in comparison to the global industry. This offers strong growth opportunities across different verticals. According to IDC, the TAM of the credit reporting industry is projected to grow by a CAGR of 28.2% from 2021-2025E. While the largest vertical by value is and will remain with the financial services sector, the high growth potential lies in sectors such as automotive, media technology, insurance, healthcare, real estate, retail and healthcare.

Figure 44: TAM* for credit-reporting industry solutions by industry (MYRm)

Sector	2016	2017	2018	2019	2020	2021E	2022E	2023E	2024E	2025E	16-20 CAGR	21-25E CAGR	16-25E CAGR
Financial services	124.1	151.0	176.4	199.6	203.4	310.1	403.2	491.9	592.3	682.3	13.1%	20.8%	21.8%
Direct to consumers	14.4	17.5	20.3	22.8	23.5	39.8	56.5	74.4	96.3	122.6	12.9%	26.8%	32.4%
Retail	3.3	3.9	4.6	5.1	5.2	12.1	21.5	33.8	42.1	50.1	12.0%	35.1%	42.6%
Healthcare	1.8	2.0	2.3	2.6	2.7	12.1	17.8	26.5	40.4	60.0	10.9%	47.9%	49.2%
Insurance	4.8	6.0	7.1	7.8	8.0	12.4	19.3	27.2	38.1	.9	13.7%	30.5%	43.7%
Telco & utilities	4.9	6.0	7.1	7.9	8.1	13.1	18.5	26.1	34.2	44.6	13.3%	27.8%	35.8%
Automotive	1.8	2.3	2.4	2.8	3.0	6.3	11.9	19.4	30.9	49.1	13.9%	44.7%	67.3%
Media technology	1.7	2.1	2.5	2.7	2.8	6.3	10.9	19.0	28.8	43.7	13.5%	43.7%	62.5%
Real estate	1.9	2.3	3.3	5.1	5.4	6.4	7.6	11.1	17.6	26.9	29.6%	34.2%	43.2%
Software & professional services	1.8	2.2	2.5	2.7	2.9	4.8	6.2	8.8	9.5	9.3	12.9%	21.6%	21.2%
Total	**160.5**	**195.3**	**228.6**	**259.2**	**264.9**	**423.4**	**573.4**	**738.3**	**930.3**	**1,141.5**	**13.3%**	**24.4%**	**28.2%**

**Note: TAM defined as revenue opportunity available.*
Source: IDC, Company data

High barrier to entry. Currently, there are only seven credit reporting agencies registered under the Registrar Office of Credit Reporting Agencies. These are CTOS Basis, CBM, CRIF OMESTI, CTOS Data Systems, Dun & Bradstreet (Malaysia), Experian and FIS Data Reference. In the last 10 years, there has only been one new entrant in the industry (CRIF Omesti) and only three credit reporting agencies are granted access to CCRIS by Bank Negara, namely CBM, CTOS, and Experian.

More than just credit reporting. With CCRIS providing the most basic borrower information, credit reporting agencies compete on the extent of their databases and range of value-added services (see Figure 35 for details). In addition, several industry players have also repositioned themselves to offer services beyond credit reporting. Specialisation in analytical abilities for deeper insights into the borrower has given birth to adjacent solutions like fraud & protection monitoring as well as digital onboarding systems.

Figure 45: Barriers to entry

Regulation — **Highly regulated industry is difficult for new entrants**

- Regulated by the Registrar Office of Credit Reporting Agencies & bound by the CRA Act.
- New CRAs' foreign shareholding cannot >70.0%;
- CRAs with >51.0% foreign shareholding only allowed to operate a commercial credit reporting business;
- Mandatory for the CEO and 2/3 of its board members to be Malaysian citizens.

Security — **Security requirement creates a high barrier for new entrants**

- Taking the necessary cybersecurity precautions to avoid loss, misuse, modification, unauthorized or accidental access;
- Critical to have the right cybersecurity tools in place and also to educate and train employees on their social responsibility and business ethics.

Database — **New entrants may have limited access to data and lack historical information**

- Have access to a large database to build the algorithm and analytics for modelling credit scores;
- Approval from the necessary governmental agencies and other data sources to gain access to data.

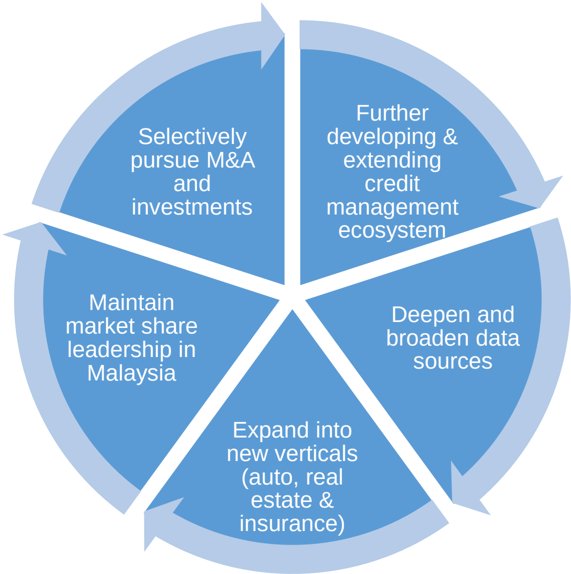
Brand recognition — **New entrants need to compete against incumbent for consumers' trust**

- Customer trust and brand recognition are important when handling sensitive information;
- Organisations such as CTOS have built a reputation for having one of the largest electronic trade reference databases in the country.

Source: IDC

Future Plans And Strategies

Figure 46: CTOS' future plans and strategies



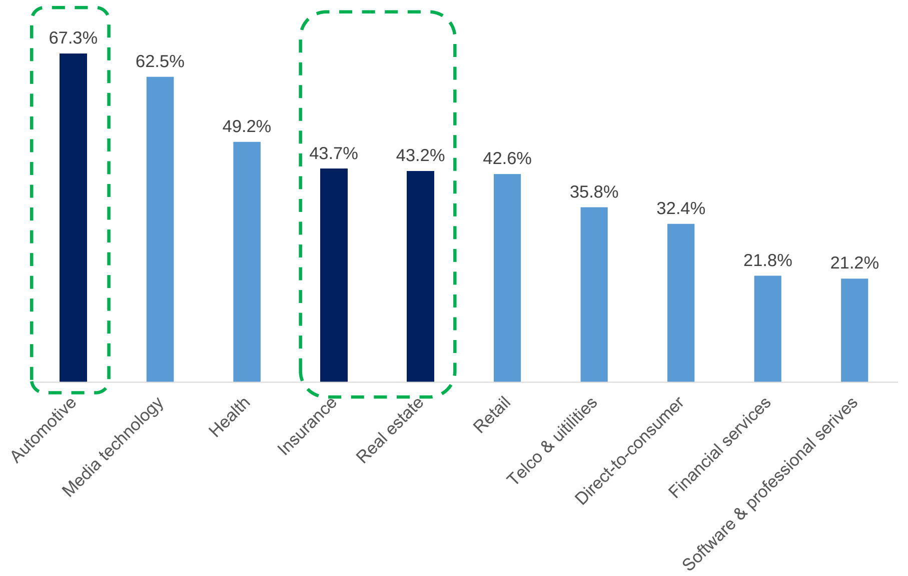
Source: Company data

The strong gets stronger. CTOS intends to continue developing and extending its ecosystem to cement its market share leadership in Malaysia. In the next two years, the company expects to invest IT capabilities and data and analytics. About 50% of the capex will be spent on upgrading its IT capabilities and about 15% on data and analytics. Currently, analytical services form 10% of revenue in the ASEAN credit reporting industry, c.15% less than that of the US, according to IDC Analysis. In the medium to long term, CTOS also intends to increase investments in artificial intelligence and machine learning, and to incorporate these technologies into its analytics and decisioning platforms (eg CTOS Scores and CAD).

It's all about the network effect. By leveraging on its strong local branding and long-standing working relationships with key customers, CTOS aims to increase its database network through the Key Accounts, Commercial customers, and partners within the next three years. This will open up its access to a significantly greater number of information channels, and can help build a mutually beneficial community. Customers can help enhance the databases while CTOS can synthesise this data and provide even more insightful digital solutions through our data analytics capabilities. By consistently focusing on the depth and quality of information provision, this would create even higher barrier to entry, allowing CTOS access to high quality information and provide greater value to customers.

Going beyond credit reporting. CTOS plans to expand into new sectors, including automotive, real estate and insurance, which have strong growth potential. These sectors are typically present in global credit reporting agencies, but are relatively nascent and unique to the Malaysian credit reporting industry. The combined TAM of these sectors is forecasted to grow register a 50.6% 2021-2025E CAGR, according to IDC Analysis. As the market leader in Malaysia, CTOS is well-positioned to capitalise on the growth of these new verticals. Currently, the company has several digital solutions that are in the pipeline related to motor vehicle checks and collections, which it aims to launch in the next two years based on current development timelines.

Figure 47: CTOS' future plans and strategies



Source: IDC

Multi-pronged strategy to maintain market leadership. CTOS will maintain or grow its leading market share by increasing market penetration, creating high quality value-added digital solutions, venturing into new verticals, and acquiring new customers to increase our revenue base. To grow its Key Accounts customer base, the company will introduce new digital solutions to capture a larger share of wallet of its Key Accounts customers. CTOS has launched at least one digital solution each year in the last three years. Separately, to increase its market penetration within the consumer segment, CTOS intends to launch new digital solutions and increase consumer awareness campaigns.

Selectively pursue acquisition and investment opportunities. The company has earmarked a portion of the IPO proceeds for acquisitions in the next 36 months, as part of its growth strategy. As such, CTOS is exploring investment and acquisition opportunities in companies with technologies or skill sets that complement or can add value to its existing business. It is also actively seeking opportunities to expand geographically.

Board Of Directors

Tan Sri Izzuddin bin Dali, Independent Non-Executive Chairman. Tan Sri Izzuddin also serves as the Independent Non-Executive Chairman of TCS Group, which is listed on the ACE Market of Bursa Malaysia, Chairman and Director of Prima Gading Corp, director of The Solid Kitchen Manufacturing, and Chairman of MMSB Projects.

Dato' Noorazman bin Abd Aziz, Independent Non-Executive Director. Dato' Noorazman is also the Non-Independent Non-Executive Chairman of UEM Sunrise, and a Non-Independent Non-Executive Director of UEM Edgenta, an Independent Non-Executive Director of Kumpulan Perangsang Selangor, and an Independent Non-Executive Director of Hong Leong Financial Group – all of which are listed on the Main Market of Bursa Malaysia, and a director of PLUS Malaysia. He is also a member of the global advisory board of Creador. In his capacity as a member of the global advisory board of Creador, he participates in discussions on prospective investments of Creador, but is excluded on any matters relating to the CTOS Group.

Datuk Azizan bin Haji Abd Rahman, Independent Non-Executive Director. He is also the Chairman of the Audit and Risk Committee. He currently serves as the Chairman of Malaysian Rating Corporation and MIDF Amanah Investment Bank. He is also a director of Azizan Abd Rahman Associate, Cagamas, Cagamas SRP, City Credit Investment Bank, Labuan, Kensington Trust Malaysia, Malaysian Industrial Development Finance, OCBC Bank (Malaysia), OCBC Al-Amin Bank, and Danum Capital.

Dennis Colin Martin, Non-Independent Executive Director and Group CEO. He leads and manages the group on strategic and financial areas of responsibility. His other board position includes a Non-Independent Non-Executive Director of BOL, which is listed on the Stock Exchange of Thailand. From Jun 2020 to Apr 2021, he was the Chairman of CIBI. From Mar 2020 to Apr 2021 , he was a director of CTOS Singapore. He has over 20 years of experience in the credit reporting industry and 16 years of experience in the banking sector. He also sat on the boards of directors of multiple credit reporting agencies.

Loh Kok Leong, Non-Independent Non-Executive Director. He is a member of CTOS' Nomination and Remuneration Committee. He is a Senior Managing Director at Creador. His career began in Aug 1996 when he joined Astro Malaysia as an executive, then became a manager in Dec 1998. In Jan 2000, he joined Boston Consulting Group as a consultant, and rose through the ranks to the position of partner and managing director. In Jan 2009, he founded Aigeus Capital, where he managed the businesses of the consulting company until Oct 2013. He then joined Creador in Nov 2013 as Managing Director, and became a Senior Managing Director of the firm in Aug 2018 until the present.

Lynette Yeow Su-Yin, Independent Non-Executive Director, is also the Chairman of the Nomination and Remuneration Committee and a member of our Audit and Risk Committee. She is currently serving as a consultant in Messrs Sanjay Mohan. She is also an Independent Non-Executive Director of Malaysia Building Society, which is listed on the Main Market of Bursa Malaysia, and a director of MBSB Bank. She is also an independent member of the Securities Commission's Take-Overs and Mergers Committee.

Nirmala A/P Doraisamay, Independent Non-Executive Director, is currently serving as an advisor at Credience Malaysia, She is an Independent Non-Executive Director of Petronas Dagangan and Evergreen Fibreboard, both of which are listed on the Main Market of Bursa Malaysia

Wong Pau Min, Alternate Director to Loh Kok Leong, is currently serving as an Executive Director of Creador and a non-executive director of CIBI. Prior to joining Creador in May 2014, he was a Principal at Boston Consulting Group in Kuala Lumpur, where he spent nine years in management consulting.

Key Senior Management Team

Dennis Colin Martin, Group CEO (please refer to Board of Directors for profile).

Eric Chin Kuan Weng, CEO of CTOS Data Systems. He has over 25 years of experience in helming senior leadership roles in business, sales and operational functions for multinational and local corporations. He began his career with Hong Leong Yamaha Distributors as a Parts Executive in Apr 1994. He then joined Sony TV Industries (M) as Senior Purchasing Officer from Sep 1994 to Dec 1997. From Jan 1998 to Jan 2008, he worked at Siemens Malaysia under the Siemens Business Services division, and Siemens Nixdorf Information Systems (M), where he rose through the ranks to become the vice president of IT and business advisory in charge of management of the business performance of solutions and consulting services practice, and establishing new solutions. In May 2008, he joined Kelly Services (M) as the head of the Professional and Technical Division. He was the COO of CBM from Nov 2008 to Sep 2014.

Garris Chen Thai Foong, Group CFO. She has over 32 years of experience in finance and treasury. She joined CTOS in Apr 2016 as the CFO of CTOS Data Systems. From Aug 2014 to April 2016, she was the Group CFO of Taylor's Education Group in charge of all finance- and treasury-related matters. From Jun 2012 to Jul 2014, she became the Director of Shared Services in Lafarge Malaysia, where she led and managed its shared services centre operations and activities. She was appointed as the Deputy Head of Quality Assurance and Shared Services Centre for DHL Asia Pacific Shared Services, a position she held from May 2008 to Jun 2012

Tracy Gan Jo Lin, COO of CTOS Data Systems. She has over 23 years of experience in operations. She joined CTOS in May 2017 as the General Manager in Customer Experience before being promoted to the COO of CTOS Data Systems in Jan 2019. From Dec 2012 to Dec 2013, she was the Head of Order Management and Fulfilment at Maxis. She was then promoted to the Head of Distributor and Modern Trade Management at Maxis in Dec 2013. Prior to this, she was Head of Customer Operations at Time dotCom, the where she was responsible for managing and overseeing the operations of the customer service, order management, service delivery and outsourced services departments.

Lim Sue Ling, Group Head of Risk and Business Compliance. She has over 15 years of experience in regulatory compliance and risk management of the credit reporting business. She oversees all compliance-related matters of the group. She joined CTOS in Jul 2008 as a special project officer under CTOS Business. In Sep 2020, she was promoted to Senior Head of Risk and Business Compliance.

Benjamin Lau Chi Meng, Group General Manager of IT. He has over 15 years of experience in IT. He joined CTOS in Jan 2010 as the head of the IT department. He started his career in Sep 2005 as a Java developer in Acelsys, before being promoted to Senior Java Developer in Jan 2008. From Jul 2008 to Jan 2010, he was a Senior Software Engineer in VersaPAC, being primarily responsible for the design of software, database and infrastructure hosting of the company. Thereafter, he joined CTOS, and has been part of its key senior management team ever since.

Recommendation Chart

Source: RHB, Bloomberg

Date	Recommendation	Target Price	Price
2021-09-23			

Source: RHB, Bloomberg

RHB Guide to Investment Ratings

Buy: Share price may exceed 10% over the next 12 months
Trading Buy: Share price may exceed 15% over the next 3 months, however longer-term outlook remains uncertain
Neutral: Share price may fall within the range of +/- 10% over the next 12 months
Take Profit: Target price has been attained. Look to accumulate at lower levels
Sell: Share price may fall by more than 10% over the next 12 months
Not Rated: Stock is not within regular research coverage

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